Ethernet Print Server
User's Guide

EtherDuo-PS
(EN2024-6)

CheetahPrint Power-3003
(EP3003)

P\N: 9570220006

FCC Statement:

This device complies with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. Operation is subject to the following two conditions:

This device may not cause harmful interference, and,

This device must accept any interference received, including interference that may cause undesired operation.

CE Marking Warning

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Document Version: 1.1

Important Safety Instructions

1. Unplug this device from its power source before cleaning. Use only a slightly dampened cloth for cleaning. Do not use liquid or aerosol cleaners.
2. Avoid using this product near water. Exposure to water poses an electric-shock hazard.
3. Do not place this device on an unstable surface. The device may fall causing serious damage to the device.
4. This device should only be used with the power supply type specified on the marking label. If you are not sure of type of your local power supply, consult your dealer or local power company.
5. Do not pinch, crimp or otherwise damage the power cord. If exposed to foot traffic, ensure that the cable is properly shielded and does not pose a tripping hazard.
6. If using an extension cord, make sure the total ampere rating of the products using the cord does not exceed the extension cord's ampere rating.
7. Do not attempt to service this device, as opening or removing casing may expose you to dangerous voltage points or other risks. Refer all servicing to qualified service personnel.
8. The device should be serviced by qualified service personnel under the following conditions:
    - The power cord is damaged or frayed.
    - Liquid has been spilled onto the product.
    - The product has been exposed to rain or water.
    - The product does not operate normally in accordance with the operating instructions.
    - The device has been dropped or the casing has been damaged.

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Chapter 1

Introduction

This chapter provides an overview of your Print Server's features.

Congratulations on the purchase of your new Print Server. This device was designed to provide a simple and efficient network printing solution. It is packed with features, including:

- ***Versatility.*** The Print Server supports up to five protocols: NetWare, TCP/IP, SMB (Service Message Block), AppleTalk (EtherTalk), and NetBEUI. It features two Ethernet interface ports and operating system support includes Unix, Novell, and Microsoft Windows.
- ***Easy Installation.*** The Print Server makes adding printers or plotters to your network simple. The EN2024-6 EtherDuo-PS supports both 10Base2 and 10BaseT connections, while the CheetahPrint Power supports both 10BaseT and 100BaseT. With both models, the auto-sensing LAN interface means that there is no need to set jumpers or perform software configuration to select the network interface used.
- ***Compact Size.*** This allows the Print Server to be used even where space is limited.
- ***Remote Management Tools.*** A variety of software tools are provided. In most environments, both the Print Server and attached bi-directional printers can be configured remotely.
- ***SNMP Support.*** The EP3003CheetahPrint Power-3003 can act as a SNMP agent, with it own MIB. This allows TCP/IP users to monitor, configure and troubleshoot the Print Server using their existing SNMP management tools.
- ***Internet Printing.*** Using TCP/IP, the EP3003 CheetahPrint Power-3003 can be configured to allow clients, suppliers, colleagues and others to print to one of your printers from anywhere on the Internet.

Package Contents

You should find the following items packaged with your Print Server. If any items are missing, contact your dealer immediately.

- The Print Server
- Power Adapter
- One CD-ROM containing all support programs and this manual

This manual covers the following Print Server models:

- EN2024-6 EtherDuo-PS — 2 Parallel Ports, 1 Serial Port
- EP3003 CheetahPrint Power-3003 — 3 Parallel Ports, 100BaseT support

EN2024-6 EtherDuo-PS

The EN2024-6 EtherDuo-PS provides 1 RS-232 serial port and 2 parallel ports; all ports can be used simultaneously. Two Ethernet interface ports (BNC and UTP) are also provided.

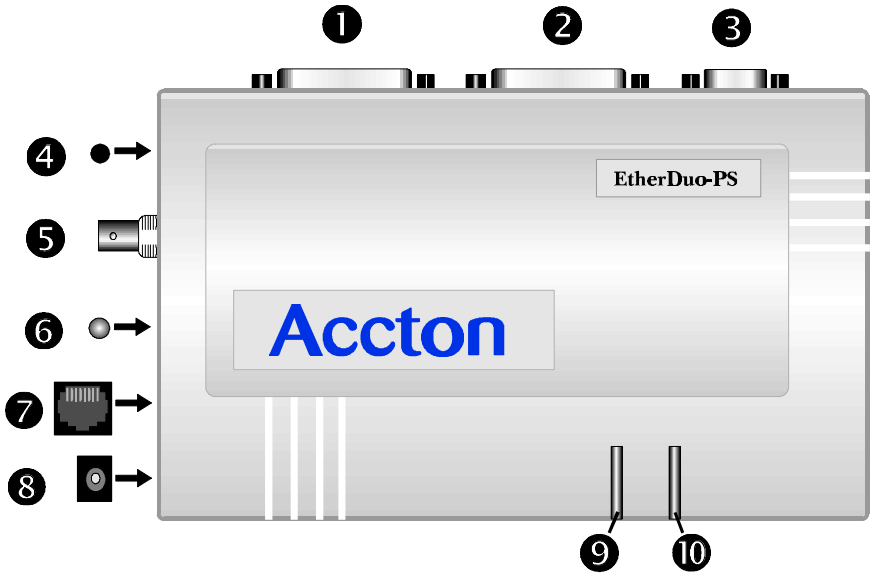


Figure 1 EN2024-6 EtherDuo-PS

Item	Description
❶	Parallel Port 1
❷	Parallel Port 2
❸	Serial Port
❹	Reset Push Button
❺	10BASE-2 (BNC) Connector
❻	10BASE-T (UTP) Link LED
❼	10BASE-T (UTP) Connector
❽	9V Power port
❾	Green Activity LED
❿	Red Status LED

EP3003 CheetahPrint Power-3003

The EP3003 CheetahPrint Power-3003's UTP connector supports both 10BaseT and 100BaseT. The 3 bi-directional parallel ports support simultaneous printing.

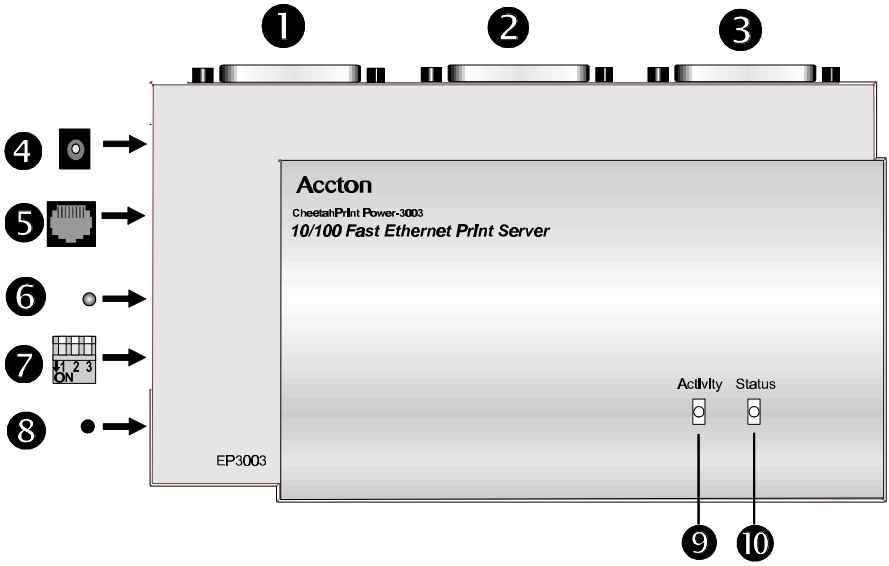


Figure 2 EP3003 CheetahPrint Power-3003

Item	Description
❶	Parallel Port 1
❷	Parallel Port 2
❸	Parallel Port 3
❹	12V Power port
❺	10/100BASE-T Connector
❻	10/100BASE-T Link LED
❼	10/100BASE-T Switches. See the following table for details.
❽	Reset Button
❾	Green Activity LED
❿	Red Status LED

LED Indicators

There are two LED indicators on the top on the Print Server unit. The red LED is the Status/Error indicator. The green LED is the Power/Link indicator. See the previous figures to locate the LEDs on your model. The LED indicator modes are described in the following table.

Green LED	Red LED	Status Description
Solid Off	Solid Off	No power.
Solid On	Solid On	Hardware error.
Solid On	Solid Off	Normal operation.
Flashing	Off	Transmitting or receiving packets from the network.

Table 1:- LED Indicators

10/100BaseT Switches

Models supporting 10BaseT and 100BaseT have 2 DIP switches. See the previous diagrams to locate these switches. Operation of these switches is described below.

Switch	Description
1	**Auto Negotiation Switch.** When ON (UP position), the device will select 10BaseT/100BaseT and Full/Half Duplex as required. The recommended position is ON; switches 2 & 3 are disabled when Auto Negotiation is ON.
2	**10/100BaseT Manual Select Switch**. Set UP for 100BaseT or DOWN for 10BaseT. Switch 1 must be OFF for this switch to function.
3	**Full/Half Duplex Switch**. Set UP for Full duplex operation or DOWN for Half Duplex operation. Switch 1 must be OFF for this switch to function.

Table 2:- DIP Switches

Chapter 2

LAN Installation

This chapter describes how to install the Print Server in your Local Area Network.

Once installed, the Print Server acts as a node in the local area network with its own unique network address.

Installation Procedure

1. Find the Default Print Server Name

The default name is located on a bar code sticker attached to the bottom of the Print Server unit. It will be in the form SCxxxxxx (SC followed by 6 digits). This name will be needed during configuration.

During configuration you will be able to change the device name. The new name MUST NOT contain any spaces or blanks

2. Connect the Printer Cables

Connect the printer or plotter cable(s) to the appropriate port(s) on the Print Server unit. Parallel port cables should be less than 3 meters long.

Leave the Print Server powered OFF while connecting it to the Printer(s) and the LAN.

3. Connect the Network Cable

- Connect the network cable (BNC or UTP) to the proper connector on the Print Server. The Print Server will automatically recognize whichever connector is used.
- Set the 10/100BaseT Switches as described in Chapter 1, if your model supports this feature. Whenever possible, use the auto negotiation setting. If the auto negotiation fails, the 10/100BaseT Link LED will not light when the device is powered up. In this case, check the cable, then press the reset button. If the 10/100BaseT Link LED still does not light, disable the auto negotiation function and manually set switches 2 and 3.

4. Connect the Power Adapter Cable

Plug in the power adapter cable. Check the Power and Status LED indicators on the top of the unit. When the Red Status indicator LED goes out and the Green Power indicator LED remains lit or flashes, the Print Server is ready.

Use only the Power Supply unit provided with the device. Power Supply units for different models are not interchangeable

5. Mount the Print Server

If desired, use Velcro adhesive strips to attach the Print Server unit to the side of a laser printer to conserve working space.

Chapter 3

AppleTalk

This chapter details using the Print Server in the AppleTalk environment.

The Print Server supports AppleTalk (EtherTalk), PAP, ATP, NBP, ZIP and DDP protocols, enabling Macintosh computers on the network to view and use the Print Server as a regular AppleTalk printer. Configuring and printing in the EtherTalk environment operates completely as usual.

The PSTool program has been provided specifically for the Macintosh environment, to allow easy configuration of your Print Server.

Software Requirements

System 7.x OS or newer

AppleTalk Setup

1. Click the apple icon and choose Control Panel.
2. Click Network.
3. Make sure that EtherTalk is selected under AppleTalk Connection. If not, do so now.
4. Click Chooser. The Chooser panel will open.
5. Click on either the LaserWriter 8 icon (recommended) or the LaserWriter 7 icon. LaserWriter 8 makes use of the fonts installed in the printer itself, so the printing response time is quicker. LaserWriter 7 uses the fonts installed in the computer, which increases network traffic and takes more printing time.
6. Select a Print Server from the printer list by clicking on the appropriate name. The Print Server's name will appear in the form of SCxxxxxx, (SC followed by 6 digits) which is recorded on the bar code label on the bottom of the Print Server.
7. Click on the *Close* box. This closes Chooser and completes the Print Server setup process. Printing commands will operate as usual, with output routed to the Print Server printer.

Printing

Printing with the Print Server installed in an AppleTalk network is identical to normal printing. For example, select a document that you want to print and then select *File - Print*. Chose the desired printer.

Advanced Setup and Management

This section describes the configuration changes which can be made to your Print Server device.

Changing the Device Configuration

Windows Software

Chapter 8 - Management Tools describes the general-purpose management tools which can be used to configure and manage your Print Server. All of these programs require a version of Microsoft Windows. The BiAdmin program, which requires Windows 95 or Windows NT, allows access to ALL settings, not just those important in the AppleTalk environment.

Macintosh Software

In AppleTalk, you can use **SimpleText** to edit the Print Server's CONFIG file and the supplied **PSTool** program to send it to the Print Server. The procedure is as follows:

1. Copy the following files from the Utility\Apple folder on the CD-ROM to an appropriate folder on your hard disk.

   PSTool
   CONFIG.xxx

   Select the appropriate CONFIG file for your model as follows:

config.1p	Single parallel port model
config.2p1s	Two parallel ports, 1 serial port
config.3p	Three parallel ports

2. Use **Chooser** to select the desired Print Server.
3. Double click the CONFIG file, and edit it. The file should look like the example below, but may vary depending on your model.

```
begin CMD
0001 Device Name: SCxxxxxx
3000 Apple Zone : *
3001 Printer Type (P1): LaserWriter
3002 Printer Type (P2) LaserWriter
3003 Printer Type (SP): LaserWriter
3004 Printer Type (P3) LaserWriter
3101 AP_PCOMM1: No
3102 AP_PCOMM2: No
3103 AP_PCOMM3: No
3104 AP_PCOMM4: No
Serial Port Configuration
0030 Baud Rate: 9600
0031 Stop Bits: 1
0032 Parity: None
0033 Data Bits: 8
0034 Handshake: HARDWARE
9002
```

   The appropriate values for each line are described in the following section *AppleTalk Settings*.

Do NOT modify the following lines:

```
beginCMD
9002:
```

4. Save the file.
5. Double click the icon for PSTool.
6. Click the Printer submenu and choose *Download Postscript File*. A panel will appear with a list of files.
7. Click the CONFIG file. Then click *Download*.

AppleTalk Settings

When editing the CONFIG file, only the *parameter* should be changed. The *parameter* is the last part of the line, after the colon (:). Ensure that you use only valid *parameters*.

0001 Device Name: SCxxxxxx

The default name will be in the form SC followed by 6 digits. This can be changed, but the new name MUST NOT exceed 19 characters in length.

3000 Apple Zone: *

The default value "*" allows all AppleTalk zones to access the Print Server's printers. To restrict access to a particular zone, enter the zone name here.

3001 Printer Type (P1): LaserWriter

3002 Printer Type (P2) LaserWriter

3003 Printer Type (SP): LaserWriter

3004 Printer Type (P3) LaserWriter

These are text fields, used to describe the printer driver used for each port. P1, P2, P3 refer to the parallel ports, while SP refers to the Serial Port The name can be up to 19 characters long.

3101 AP_PCOMM1: No

3102 AP_PCOMM2: No

3103 AP_PCOMM3: No

3104 AP_PCOMM4: No

These settings determine whether the port uses ASCII or Binary Communication Protocol. Enter NO for ASCII or YES for Binary. The lines refer to the following ports.

3101 AP_PCOMM1:	Parallel Port 1
3102 AP_PCOMM2:	Parallel Port 2
3103 AP_PCOMM3:	Serial Port
3104 AP_PCOMM4:	Parallel Port 3

In choosing which Protocol to use, consider the following points.

- Binary communication is twice as fast as ASCII
- ASCII communication is more reliable
- The computer, Print Server and printer MUST all be configured to use the SAME protocol. Check your printer manual for details of printer configuration, and use the *Print* menu to configure your computer, so that they use the same settings as the Print Server.

Serial Port Configuration

Check your serial device to see what settings should be used. The following options are available.

Setting	Options
0030 Baud Rate	300, 600, 1200, 2400, 4800, 9600, 19200, 38400 (bps)
0031 Stop Bits	1 or 2.
0032 Parity	None, Odd, Even.
0033 Data Bits	7 or 8.
0034 Handshake	Hardware, XON/XOFF, None, Both (Hardware & XON/XOFF)

Chapter 4

Novell NetWare

This Chapter describes how to configure and use the Print Server in the Novell NetWare environment.

Configuration Overview

This section describes the checks and decisions to be made before proceeding with configuration under NetWare

Requirements

- NetWare 2.2, NetWare 3.1x or NetWare 4.x
- NetWare PCONSOLE V1.21 or higher in the file server
- NetWare Print Server V1.22 or higher (remote printer mode only)
- DOS 3.3 or higher on workstations.
- Hardware installation must be completed.

Operating Modes

Two operating modes are possible -*Print Server* and *Remote Printer*. **Print Server** mode is faster and uses fewer resources than Remote Printer mode but occupies a user login slot. **Remote Printer** mode does not use a login slot. Print Server mode should be used if possible.

♦ Print Server Mode

The Print Server emulates NetWare PSERVER. When activated, the device will perform the following operations:

- Login to specified NetWare file server(s)
- Poll the specified print queues.
- If there are print jobs in the print queues, then the Print Server will send them to the printer(s).

♦ Remote Printer Mode

The Print Server emulates a NetWare Remote Printer. After the unit is activated, it will perform the following operations:

- Connect to NetWare PSERVER
- Receive the print jobs sent by PSERVER
- Convert the packet format to a acceptable printer format, and send the data to the printer.

Configuration Method

The following two methods can be used to setup the Print Server in the NetWare environment.

♦ Quickset

The QUICKSET program will configure the Print Server and the current Novell server in a single operation.

♦ Pconsole and PSconfig

Use PCONSOLE to setup the Print Server configuration in the NetWare file servers. Then use the PSCONFIG program for device configuration.

Preparation

- Copy all files in the \Utility\Dos directory on the CD-ROM to your workstation's hard disk. The QUICKSET and PSCONFIG programs are in this directory.
- If you want to install the Print Server on an NDS network, log in the NDS network as ADMIN. or as a user with *Admin.* rights.
- If you want to install the Print Server on bindery based file servers, such as NetWare 2.X or 3.X, log in to a bindery based file server as a SUPERVISOR or as a user with supervisory rights.

Configuration Using Quickset

This section describes how to use the Quickset program to configure the Novell server and the Print Server.

Quickset /? Will display a help screen.

In the "Syntax" sections, brackets ( ) indicate optional parameters. Ignore references to ports which do not exist on your model.

To use more than one bindery file server, see Service Additional NetWare Bindery file servers on page 23.

NetWare Print Server Mode

In NetWare Print Server mode, Quickset uses the following settings:

Ethernet 802.2 frame type: Enable
Ethernet 802.3 frame type: Enable
Ethernet SNAP frame type: Enable
Ethernet II frame type: Enable
Polling NetWare Queues interval: 1 second
Job Notification by Login Name
Set the Master file server as the specified server (in bindery based file server environment)
Set the context name to the current context name (in NDS environment)
Set the NDS tree name to the current NDS tree name (in NDS environment)
Set NetWare Operation Mode: Print Server Mode
Set the device name as specified in the parameter list
Set the device password to NULL
Serial Port Configuration is as follows if a serial port exists:
    Baud rate: 9600, Data bits: 8, Stop bits: 1, Parity: none
    Protocol: hardware

Syntax - Novell Print Server Mode

Bindery Based File Server

Quickset **Name** (/UN=**P**) (/Q1=**W**) (/Q2=**X**) (/Q3=**Y**) (/QS=**Z**) (/FS=**F**)

NDS Network

Quickset **Name** (/UN=**P**) (/Q1=**W**) (/Q2=**X**) (/Q3=**Y**) (/QS=**Z**)

Parameter	Meaning
Name	The default name displayed on the bar code label on the bottom of the unit..
P	New name of the Print Server.
W, X, Y, Z	**W, X, Y,** and **Z** are the names of the queues to be serviced by parallel ports 1 to 3 and the serial port. P1, P2, P3 and SP are the default queue names.
F	**F** is the name of the master file server of the device. When multiple file servers are serviced; this information is stored in the master file server.

QUICKSET will create a print server object, printer objects and queue objects with the current context and current tree that the user logs on to. The printer names will be set to dv_P1, dv_P2, dv_P3 and dv_SP , where dv is the device default name, and P1, P2, P3, and SP indicate the port.

Example 1 - Bindery Environment

Quickset SC123456 /UN=Marketing /FS=Net311

In this example, unit SC123456 has been setup as a Novell Print Server. Its new name is *Marketing* and its Master File Server is Net311.

Example 2 - NDS Environment

Quickset SC123456 /UN=Marketing

In this example, SC123456 has been renamed *Marketing* and setup as a Novell Print Server in the current NDS network.

Novell Remote Printer Mode

In NetWare Remote Printer mode, Quickset uses the following settings:

Ethernet 802.2 frame type: Enable
Ethernet 802.3 frame type: Enable
Ethernet SNAP frame type: Enable
Ethernet II frame type: Enable
Set attached NetWare Print Server as the specified server
Set NetWare Operation Mode: Remote Printer Mode
Set the Print Server name as specified in the parameter list
Serial Port Configuration is as follows if the serial port exists:
Baud rate: 9600, Data bits: 8, Stop bits: 1, Parity: none
Protocol: hardware

The Quickset program configures all the Print Server's printer ports to service the same NetWare print server. To configure the ports to service different NetWare print servers, refer to Attach to more than one NetWare Print Server on page 23.

Syntax - Novell Remote Printer Mode

Bindery Based File Server

Quickset **Name R** (UN=**P**) (/Q1=**W**) (/Q2=**X**) (/Q3=**Y**) (/QS=**Z**) (/FS=**F**)

NDS Network

Quickset **Name R** (/UN=**P**) (/Q1=**W**) (/Q2=**X**) (/Q3=**Y**) (/QS=**Z**)

Parameter	Meaning
Name	The default Print Server name, as displayed on the bar code label on the bottom of the unit.
R	**R** is the name of the NetWare print server that the Print Server will connect to.
P	The new name of the Print Server.
W,X, Y, Z	**W,X, Y**, and **Z** are the names of the queues to be serviced by parallel ports 1 to 3 and the serial port, respectively. If you do not enter **W, X, Y**, or **Z**, then P1, P2, P3 and SP are the default names of queues for parallel ports 1 to 3 and the serial port, respectively.
F	**F** is the name of the file server that the NetWare print server R logs onto.

Example 1 - Bindery Environment

Quickset SC123456 PS1 /UN=Marketing /FS=Net311

In this example, Print Server SC123456 has been setup as a remote printer that is attached to the NetWare print server, PS1, on the Net311 file server.

Example 2 - NDS Environment

Quickset SC123456 PS1 /UN=Marketing

In this example, Print Server SC123456 has been setup as a remote printer that is attached to the NetWare print server PS1. Its new name is Marketing.

Using PCONSOLE / PSCONFIG

After using PCONSOLE to configure the Novell server, the device must be configured. This section uses PSCONFIG to perform this task, but the other programs described in *Chapter 8 - Management Tools* could be used instead.

Novell Print Server Mode

Before you begin, please note the following information:

- **Novell Printer Numbers**

  NetWare printer numbers match device ports as follows.

Novell Printer Number	Device Port
Printer number 0	Parallel Port 1
Printer number 1	Parallel port 2
Printer number 2	Parallel port 3 OR the serial port.

- **Assigning users to printer queues**

  If new printer queues are created, users needing to use the print queues may need to be designated as queue users by using PCONSOLE.

Print Server Mode in NetWare 2.x, 3.x

Follow the steps listed below to configure the Print Server in NetWare print server mode.

1. Create Queues

If you are setting up the Print Server for use with existing queues, proceed to Step 2.

(a) Log into a NetWare file server as a SUPERVISOR or as a user with SUPERVISOR rights.

(b) Run **PCONSOLE** program.

(c) Select *Print Queue Information* (or skip to step 6 if you do not need to add new queues).

(d) Press [**Ins**] key to add a new queue.

(e) Type a queue name, and press [ENTER].

(f) Repeat Steps (d) and (e) until you have the desired number of queues.

2. Add a Novell print server

Follow these steps to inform NetWare that a print server exists.

(a) From the PCONSOLE Main Menu, select *Print Server Information*

(b) Press [**Ins**] key to add a new print server.

(c) Enter your desired print server name.

3. Assign printers

Follow these steps to associate the NetWare printer objects with the Print Server's printer ports.

(a) Select the Print Server just added.

(b) Select *Print Server Configuration*.

(c) Select *Printer Configuration*.

(d) Select the print number, using the printer numbers shown on page 14

(e) Press [**Esc].**

(f) Select YES.

(g) Repeat steps (d), (e) and (f) for each printer port.

4. Associate printers with print queues

Follow the steps below to associate print queues with the printer(s) attached to the Print Server.

(a) Select *Queues Serviced by Printer* from the Print Server Configuration Menu.

(b) Select a printer you want to assign a print queue to.

(c) Press [**Ins].**

(d) Select the queue that you want the printer to service.

(e) Press [**Enter]** twice.

(f) Repeat steps (a) to (e) until all printer and queue associations are configured completely.

(g) Exit PCONSOLE

5. Configure the Print Server

(a) Run the **PSCONFIG** program.

(b) Select your Print Server.

(c) Select *Set to NetWare Print Server Mode*.

(d) Enter the file server you are logged onto, to be the master file server to the Print Server.

(e) Replace *Print Server name* with the name used in step 2.(c).

(f) Select *Execute Setup*.

Print Server Mode in NetWare 4.x (Bindery Emulation)

This procedure configures the Print Server as a NetWare Print Server under NetWare 4.x Bindery Emulation Mode.

1. Quick Setup on a File Server

(a) Login as ADMIN. or a user with Admin. rights.

(b) Run the **PCONSOLE** program and press [**F4]** to switch to bindery mode.

(c) Select *Quick Setup*

(d) Enter the desired names in the following fields:
Print server
New printer
New print queue

(e) Press [**F10]** to save.

(f) If necessary, repeat steps (b) to (e) for parallel ports 2 and 3 or the serial port.

If the desired print server name already exists, you need to delete that object first.

2. Configure the Print Server

(a) Run the **PSCONFIG** program

(b) Select your Print Server.

(c) Select *Set to NetWare Print Server Mode*.

(d) Select the file server you logged on in step 1.(a) to be the master file server.

(e) Replace the Print Server name with the name set in step 1.(d).

(f) Select *Execute Setup*.

Printer Server Mode in NetWare 4.X (NDS Mode)

Follow the steps below to configure the Print Server in NDS print server mode:

1. Quick Setup on a NDS network

(a) Login as ADMIN. or a user with Admin. rights.

(b) Run **PCONSOLE** program.

(c) Select *Quick Setup.*

(d) Enter your desired print server name in the **Print Server** field. Record the context.

(e) Enter the desired names in the following fields:
New printer
New print queue
Print Queue Volume

(f) Press **[F10]** to save.

(g) Repeat steps (b) to (f) for parallel ports 2 and 3 or the serial port, if they exist.

(h) Exit **PCONSOLE**.

(i) Enter the command **whoami** and record the Tree name.

2. Configure the Print Server

(a) Run the **PSCONFIG** program.

(b) Select your Print Server. Replace the device name with the name used in step 1 (d).

(c) Select *Set to NetWare Print Server Mode*.

(d) Enter data as follows:
NDS Tree name: -Tree name recorded in step 1 (i).
Print Server NDS Context: As recorded in step 1 (d).

(e) Select *Execute Setup*.

Novell Remote Printer Mode

Remote Printer Assignments

In remote printer mode the following assignments should be used, where SCxxxxxx is the device name.

Device	NetWare	
Port	**Printer Type**	**Printer Name**
Parallel 1	Remote Parallel, LPT1	SCxxxxxx
Parallel 2	Remote Parallel, LPT2	SCxxxxxx_P2
Parallel 3	Remote Parallel, LPT3	SCxxxxxx_P3
Serial	Remote Serial, COM1	SCxxxxxx_SP

Remote Printer Mode in NetWare 2.x, 3.x

Follow the steps listed below to configure the Print Server to Novell Remote Printer mode.

1. Create Queues

Follow the steps below to create queues for the Print Server. If using existing queues go to Step 2.

(a) Run **PCONSOLE** program.

(b) Select *Print Queue Information* (or skip to step 2.(a) if you do not need to add new queues).

(c) Press **[INS]** key to add a new queue.

(d) Type a queue name, and press **[ENTER]**.

(e) Repeat Steps (c) and (d) until you have the desired number of queues.

2. Assign printers

(a) Run PCONSOLE, select *Print Server Information*

(b) Select a NetWare Print Server.

(c) Select *Print Server Configuration*.

(d) Select *Printer Configuration*

(e) Select printers that show *Not Installed*.

(f) Enter the correct data in the *Name* and *Type* Fields. Refer to *Remote Printer Assignments* on page 17.

(g) Press **[ESC]**, then select *Yes*.

(h) Repeat steps (b) to (g) until all printers are assigned.

(i) Press **[ESC]**.

3. Associate printers with print queues

(a) Select *Queues Serviced by Printer*.

(b) Select a printer you want to assign a print queue to.

(c) Press **[INS]**.

(d) Select the queue that you want the printer to service, and press **[ENTER]**.

(e) Repeat Steps (a) to (d) until all printer and queue associations are configured.

(f) Exit **PCONSOLE**

4. Configure the Print Server

(a) Run **PSCONFIG** program

(b) Select your Print Server.

(c) Select *Set to NetWare Remote Printer Mode*

(d) For all print ports, enter the NetWare Print Server Name you selected in Step 2.(b).

(e) Select *Execute Setup*.

Remote Printer Mode in NetWare 4.X (NDS Mode)

Ensure that you are in the NDS mode then follow the steps listed below to configure the Print Server as a Novell Remote Printer.

1. Create queue objects

Follow the steps below if you are installing a new Print Server as a remote printer or if you are connecting a new printer to the Print Server.

(a) Login to NetWare as ADMIN. or a user with Admin. rights.

(b) Run the **PCONSOLE** program.

(c) Select *Print queues* (or skip to step 2.(a) if you do not need to add new queues).

(d) Press **[INS]** key to add a new queue.

(e) Type a queue name, and press **[ENTER]**.

(f) Repeat Step (c) to (e) until you have the desired number of queues.

2. Create printer objects

(a) From the PCONSOLE Main Menu, select *Print servers*.

(b) Select a NetWare Print Server.

(c) Select *Printers*

(d) Press **[INS]** Key to insert a printer.

(e) Enter the correct information in the *Name* Field. Refer to Refer to *Remote Printer Assignments* on page 17.

(f) Select the printer.

(g) In the *Type* field, select *parallel* for parallel port 1, 2, or 3; select *serial* for the serial port.

(h) Select *Configuration*

(i) In the *Port* field, select *LPT1* for parallel port 1, *LP2* for parallel port 2, *LPT3* for parallel port 3, and *COM1* for the serial port.

(j) In *Location* field, set to *Manual Load*.

(k) Press **[ESC]** to exit Configuration sub-menu.

3. Associate queue objects and print objects

To associate the printers with the queues to be serviced, follow the instructions below:

(a) Select Print queues assigned.

(b) Press **[INS]**.

(c) Select the queue that you want the printer to service.

(d) Press **[ESC]** twice.

(e) Repeat steps 2 (d) to 3 (d) until all association among queues and printers are configured completely.

(f) Exit **PCONSOLE**

4. Configure the Print Server

(a) Run the PSCONFIG program

(b) Select your Print Server.

(c) Select *Set to NetWare Remote Printer Mode*.

(d) Enter the NetWare Print Server Name selected in Step 2 (b) for all print ports.

(e) Select *Execute Setup*.

5. Unload and Reload Pserver

If the NetWare Pserver, to which the Print Server has been installed, has been previously loaded, you must unload and reload it. If the NetWare Pserver has not been loaded you must load it. If unloading and reloading the NetWare Pserver go to step (a). If loading for the first time, go to step (d).

(a) Go to the file server console where the NLM is running

(b) Press Alt-ESC until you get to the Print Server NLM screen.

(c) Press ESC to halt the print server NLM. Answer Yes.

(d) Once the NetWare NLM has been unloaded, enter the following command:

```
load pserver XXXX
```

XXXX is the NetWare print server selected in step 2 (b).

(a) When the *Enter Print Server Name* menu appears, press INSERT until you get to *Contents of Current Context*. Select the context that holds the print server. Select the print server from the list and press ENTER.

Printing

To print a job to the Print Server SCxxxxxx, you can use NetWare's standard utilities: **CAPTURE**, **NPRINT**, or **PCONSOLE**. If you are not familiar with the CAPTURE or NPRINT utilities, the on-line help is available by typing /? after the command.
(e.g. CAPTURE /? **[ENTER])**

In the following examples, print queue P1 is serviced by Print Server SCxxxxxx. To print, the file is sent to print queue P1.

Example 1

To use **NPRINT** to print the file *c:\config.sys* to SCxxxxxx, use the command:

```
NPRINT c:\config.sys /Q=P1 /NOTI /T=4 /NFF /NB
```

For NPRINT usage and options, see your NetWare documentation.

Example 2:

To use CAPTURE to print the file c:\config.sys to the , use the commands:

```
CAPTURE /L=1 /Q=P1 /NOTI /NT /FF /NB
COPY c:\config.sys LPT1
```

In this example, output destined for LPT1 is redirected to Print Queue P1.

For CAPTURE usage and options, see your NetWare documentation.

Configuration Settings

This section describes the configuration settings which can be altered in your Print Server. To make changes, use PSCONFIG or the programs described in *Chapter 8 - Management Tools*.

Configuration using PSCONFIG

To use PSCONFIG to change the device settings, the procedure is as follows.

1. Run PSCONFIG; a list of Print Server units will appear.
2. Select the Print Server you want to setup, then press **[ENTER]**.
3. Select *Change Configuration.* A list of category configurations will appear.
4. Select the category you want to edit, then press **[ENTER]**.
5. Select the item you want to edit and press **[Enter]**. If you are prompted to enter a character string, enter a string.
6. Change any other items you wish. The **[ESC]** key will return you to main menu to select another category if you wish.
7. Select *Execute Change* and press **[ENTER]** to save the configuration changes to the Print Server.

General Device Settings

The following configuration changes can be made, regardless of which Network protocol or operating systems is being used. :

- Get Print Server Information
- Reset Print Server
- Restore Default Configuration
- Change the Print Server's name.
- Change the device password.
- Disable/Enable network protocols.
- Get Printer Status (idle, off-line, printing)
- Logical Printer Setup (see page 24)
  - Define logical printer
  - Set pre-print-job string.
  - Set post-print-job string
- Serial port configuration (if exists):
  - Baud rate
  - Handshake protocol
  - Stop bits
  - Data bits
  - Parity.

NetWare - Specific Settings

Novell Remote Printer Mode

Device Name	Enter either the default name SCxxxxxx or the new name of the Print Server.
Novell Printer Server for P1, P2, P3 & SP	Enter the name of the NetWare print server to service the Print Server's P1, P2, P3 and SP ports.
Frame Type	Select the frame types used by your network. (Ethernet 802.2, Ethernet 802.3, Ethernet SNAP, and Ethernet II)

Novell Print Server Mode

Device Name	Use the default name SCxxxxxx or the new name of the Print Server. The new name MUST NOT exceed 19 characters, nor contain any spaces.
NDS Tree Name	NetWare 4.X NDS mode only. Enter the file servers NDS tree name (root name).
Print Server NDS Context	NetWare 4.X NDS mode only. Enter the Print Server NDS Context. The entry should contain the path to the context but not the context itself and each OU should be separated by a period. Example: **department.company**
Master file server (Bindery mode only)	Enter the name of the Print Server's master file server.
Polling Queue Interval	Defines how often the Print Server will poll the queues to be serviced.
Job Notification by Connection ID	Set to Y*es* to receive a job notification at only the workstation where the print job originated, *No* to receive a job notification at all workstations that you have logged on.
Frame Type	Select the frame types used by your network. (Ethernet 802.2, Ethernet 802.3, Ethernet SNAP, and Ethernet II)
NetWare Password	The password on the NetWare Print Server. The device needs this password to connect to NetWare.

Service Additional NetWare Bindery file servers

If your Print Server is configured as a NetWare Print Server and you want it to service more than one bindery file server, perform the following steps.

1. Login, with supervisory rights, to the other file servers you want your Print Server to service.
2. Create queues and a print server name for your Print Server on each file server you want to service.
3. Login, with supervisory rights, to the master file server of your Print Server.
4. Run **PCONSOLE.**
5. Select *Print Server Information,* then select your Print Server in the print server list.
6. Select *Printer Server Configuration*, then select *File Server To Be Serviced.*
7. Insert the file server names of the other file servers to be serviced by your Print Server.
8. Reset the Print Server

Attach to more than one NetWare Print Server

In NetWare Remote Printer mode, if you want each port of the Print Server to attach to a different NetWare Print Server, perform the following steps.

1. Use PCONSOLE to create and assign the required printers and queues as detailed in the *Remote Printer Mode* section.
2. Run PSCONFIG and select *Set to NetWare Remote Printer Mode*. Enter the correct NetWare print server names in the print server name fields, then select *Execute Setup*.

Logical Printers

Logical Printers can be used to create a "Virtual" printer. For example, to create a Landscape printer, you could define a Logical Printer as follows:

Pre-string	Printer Control codes to switch the printer to Landscape mode
Post-string	Printer Control codes to reset the printer, restoring the default settings.

Another logical printer could be used to print Unix-format text files properly, by converting Unix-style LF (Line Feeds) to DOS-style LF/CR (Line Feed, Carriage Return) pairs.

In the NetWare Print Server mode, the Print Server supports 3 logical printers for models with 1 parallel port, and 8 logical printers for other models.

Configuring NetWare

PCONSOLE must be used to create new (logical) printers and assign print queues to the printers. When creating logical printers, be sure to select printer numbers greater than 7 from the *Configured Printer* listing. In NetWare, all printer numbers greater than 7 are logical printers. Remember that selecting printer 8 corresponds to Logical printer L1, selecting printer 9 corresponds to Logical printer L2, and so on up to printer 15 which corresponds to Logical printer L8.

Configuring the Print Server

To define pre-string, post-string, and the physical output port of a logical printer, perform the following steps:

1. Run the **PSCONFIG** program.
2. Select *Change Configuration*.
3. Select *Logical Printer Configuration* and set the following items for each logical port. Logical Printers are numbered from L1 to L3 for models with a single parallel port, and L1 to L8 for other models).

Physical Port	Select the physical port for this Logical Printer (P1 to P3 for parallel ports, SP for the serial port).
String Before Job	The printer control string (in Hex) to be sent to the printer before each print job.
String After Job	The printer control string (in Hex) to be sent to the printer after each print job.
Convert LF to CR+LF	If ON, LF (line feed) characters are changed to CR+LF (carriage return + line feed). If OFF, no conversion is done.

The maximum size of a printer control string is 15 characters.

Chapter 5

TCP/IP

5

This Chapter explains how to configure and use the Print Server in the TCP/IP environment.

Software Requirements

The Print Server can work with most UNIX systems and Windows NT 3.5 or later. Software required is:

- TCP, IP, telnet, ftp (option - BOOTP, rarp)
- Either LPD (NT, Unix) or C Compiler (for PSfilter under Unix).

Device Configuration

Note: The device should be configured FIRST.

Configuration of your Print Server can be done by any of the following methods.

♦ BiAdmin Management Program

This program requires Windows 95 or Windows NT. See *Chapter 8 - Management Tools* for details.

♦ WebAdmin Management Program

This runs on an NT Server and is accessed by a WEB browser. See *Chapter 8 - Management Tools* for details.

♦ FTP (File Transfer Protocol)

With FTP, you copy the configuration file from the device, edit it, and send it back. Further information on using FTP is on pages 39 to 41.

IP Address Configuration

In the TCP/IP environment, IP addresses are essential. The Print Server requires the following IP Addresses to be entered. (The entry in brackets shows the line number and token in the device's configuration file.)

IP Address (4000 IP_ADDR)	Device IP Address. See the following section.
Gateway Address (4001 GATEWAY)	If your network segment has a router, enter the router address here. If there is no router, leave the address as 0.0.0.0.
Subnet Mask (4002 MASK)	If the Gateway Address above is 0.0.0.0 the Subnet Mask should also be left at 0.0.0.0. If you have a router, enter the Subnet mask for the segment to which the Print Server is attached.

Device IP Address

Normally, the Print Server is assigned a static IP Address, using either BiAdmin or WebAdmin.

To assign an IP address using FTP, some host configuration is necessary to allow connection to a device without an IP Address. See *IP Address Configuration* on page 28 for details.

If you leave the device IP Address at the default value of 0.0.0.0, its sequence for finding an address is as follows:

- DHCP
- BOOTP
- RARP

See *Dynamic IP Address Configuration* on page 29 for more details.

Other Configuration Settings

When assigning the IP Addresses, you should also check the following configuration settings.

Device Name (0001 BOX_NAME)	The default name will be in the form SCxxxxxx (SC followed by 6 numbers). This can be changed. The new name MUST NOT exceed 19 characters, nor include any spaces.
TCP Session Retry Interval (4010 TCP_INT)	Sets how long the Print Server should wait before retrying a TCP/IP connection which is lost. Allowable values are from 0 to 255 seconds, with 2 as the default.
TCP Session Retry Count (4011 TCP_CNT)	Sets how many attempts at reconnection will be made. After that, the TCP/IP session will be terminated. Allowable values are from 0 to 255, with 254 as the default.

Serial Port Setup

Baud Rate (bps) (0030 BAUDRATE)	Allowable values are 300, 600, 1200, 2400, 4800, 9600, 19200, 38400
Stop bits (0031 STOPBITS)	Allowable values are 1 or 2
Parity (0032 PARITY)	Allowable values are NONE, ODD, EVEN
Data bits (0033 DATABITS)	Allowable values are 7 or 8
Handshake (0034 HANDSHAK)	Allowable values are NONE, HARDWARE, XON/XOFF, BOTH

Logical Printer Setup

Physical Port (0100 L1_PROUT)	Print Server Port to which the printer is attached (P1 to P3 for parallel ports and SP for the serial port).
String Before Job (0101 L1_PREST)	The printer control string (in hex) to be sent to the printer before each print job.
String After Job (0102 L1_POSTR)	The printer control string (in hex) to be sent to the printer after each print job.
Convert LF to CR+LF (0103 L1_CHGLF)	If ON, LF (line feed) characters are changed to CR+LF (carriage return + line feed). If OFF, no conversion is done.

The maximum size of a printer control string is 15 characters.

Logical Printers

Print Server models with 1 parallel port support 3 Logical Printers, otherwise they support 8 Logical Printers. The names (L1..L8) cannot be changed. Each Logical Printer has 4 settings as shown above. The line numbers in the Print Server's CONFIG file are as follows:

Logical Printer	Line Numbers
L1	0100 to 0103
L2	0120 to 0123
L3	0140 to 0143
L4	0160 to 0163
L5	0180 to 0183
L6	0200 to 0203
L7	0220 to 0223
L8	0240 to 0243

Unix Host Configuration

The first step is to give the Print Server an IP Address so that it will be a valid device on the LAN.

Static IP Address Configuration

1. Determine the Physical Address of the Print Server from the *default name* shown on a sticker on the base of the unit. It will be in the form SCxxyyzz (SC followed by 6 numbers). If its name is SCxxyyzz, then the physical address is 00:c0:02:xx:yy:zz.
2. Login to the UNIX host as root.
3. Add the Print Server to the /etc/hosts file by adding the following line to the file:

   ```
   IP_Address NAME # comment
   ```

   Where:

   IP_Address is the IP address for the Print Server. This **must match** the IP address stored in the device.
   NAME is the Print Server's name. This **must match** the name stored in the device.
   # comment. Add the *Default Name* as a comment.

   Example:

   ```
   192.10.2.54 PS_Rm203 #Default name SC123456
   ```

   In the example above, SC123456 is assigned the IP address 192.10.2.54 and the name "PS_Rm203".
4. Associate the physical address with the IP address of the Print Server, by using the **arp** command as follows:

   ```
   arp -s NAME 00:c0:02:xx:yy:zz
   ```

   Where:

   NAME is the name assigned to the device
   00:c0:02:xx:yy:zz is the physical address of the Print Server, as determined from the default name.

   Example:

   ```
   arp -s PS_Rm203 00:c0:02:12:34:56
   ```
5. Check the IP Address using the **ping** command:

   ```
   ping NAME
   ```

   You should receive a response. If you get a *Timeout* message, the above procedure has failed.
6. If the Print Server is not configured yet, you can now connect and configure it using FTP. (See *Example - Initial Configuration* page 41).

Dynamic IP Address Configuration

If the device's IP Address is left at 0.0.0.0 it will try to obtain a dynamic IP Address by using the following methods in sequence: DHCP, BOOTP, RARP.

Using DHCP

Using DHCP is only possible if you have DHCP management software which allows you to take advantage of this feature. Otherwise, the Print Server's IP Address will be unknown, and connection to it will be impossible. In this case, configure the Print Server for a static IP Address. (See preceding section.)

Using BOOTP

1. Perform steps 1 to 3 for assigning a static IP Address.
2. Add the following entry to the Boot Table /etc/booptab

   `NAME:ht=ether:vm=rfc1024::ha=PA:ip=IP:sm=SM:gw=GW`

   Where

   NAME is the Print Server's name
   PA is the physical address of the Print Server
   IP is the Print Server's IP Address
   SM is the Subnet Mask
   GW is the Gateway IP Address
3. If it is not running, start the bootp daemon (the usual command is `bootpd`) and then reset the Print Server. It should then acquire an IP Address using bootp.
4. If the Print Server is not configured yet, you can now configure it using FTP. (See page 41 for details). Otherwise, check with the ping command:

   `ping NAME`

   You should receive a response. If you get a *Timeout* message, the above procedure has failed.

Using RARP

1. Perform steps 1 to 3 for assigning a static IP Address.
2. If the rarp daemon is not running, start it with the command:

   `rarpd -a`
3. Add a line to the Ethernet Address table /etc/ethers

   `00:c0:02:xx:yy:zz NAME`

   Where

   00:c0:02:xx:yy:zz is the physical address of the Print Server
   NAME is the name of the Print Server.
4. Reset the Print Server. When it reboots, it should acquire an IP Address from rarp.
5. If the Print Server is not configured yet, you can now configure it using FTP. (See page 41 for details). Otherwise, check the Address with the ping command:

   `ping NAME`

   You should receive a response. If you get a *Timeout* message, the above procedure has failed.

Printing Configuration

There are 4 printing methods to choose from. All are explained in the following section. Select whichever is the most convenient in your environment.

- **LPD**

  LPD is a standard print method for most UNIX systems. The benefit of this method is that it eliminates the need to install additional software on the host. The problem is that in most cases the LPD protocol sends out the data file before the control file. The Print Server will print the data file immediately, ignoring any print options set in the control file. To solve this problem, use PSfilter instead.

- **PSfilter**

  PSfilter is a proprietary print method provided with the Print Server. The benefit of this method is that it provides many print options such as banner print, copies, and so on. To use PSfilter, a C compiler must be installed on every UNIX host so that the PSfilter source code can be compiled into executable code and installed on the UNIX host.

- **FTP (File Transfer Protocol)**

  FTP is also a standard print method in most UNIX systems, but it is NOT recommended except as a test and back-up method of printing.
  LPD and PSfilter work well with a large number of users because they both employ print queue processes. FTP does not implement a print queue. If the printer is busy, the print command will fail.

- **Direct Socket Interface**

  The Direct Socket Interface (DSI) is a Unix-based method of providing a "direct" connection between a host computer and a printer. The host and the Print Server establish a TCP connection, using a special socket number. All data sent over this connection is treated as print data, and sent transparently to a logical printer defined on the Print Server.

LPD Configuration

LPD is a built-in printing protocol for most UNIX systems including BSD type UNIX. It is also supported in Windows NT 3.5 or later.

LPD on IBM AIX 4.15

Before proceeding, ensure that the Print Server has been assigned an IP Address. To setup your AIX system for LPD printing, perform the following steps.

1. Add the Print Server to **/etc/hosts.lpd**, using the name you assigned to the Print Server.
2. Start the LPD daemon if it is not running, using the following command:

   ```
   start src -s qdaemon
   ```
3. Start the system administration tool **smit** and select *Print Spooling*
4. Create the required number of queues (one for each logical printer) by selecting:

   Add a Print Queue
   Remote (Printer attached to Remote Host)
   Standard Processing
5. Use the following information:

Field	Entry
Name of queue to add	Use a single-word queue name which indicates which printer is attached.
Hostname for remote server	Print Server name as used in /etc/hosts.lpd.
Name of queue on remote server	Logical printer number (L1..L3 or L1..L8) to service this queue.
Type of print spooler on remote server.	Use default value (AIX Version xxx)

6. Ensure the logical printers are configured in the Print Server. Refer to *Logical Printers* on page 27.
7. Print using the following command:

   ```
   lp -d printer_queue file_name
   ```

   Where

   printer_queue is one of the entries used in *Name of queue to add*.
   file_name is the file you wish to print.

LPD on System V

Before beginning LPD Setup, ensure that an IP Address has been assigned to the Print Server. Keep the following points in mind:

- The **remote host name** is the name of the Print Server.
- The **remote printer name** is the print queue name for the Logical Printer. Logical printers also need to be configured on the Print Server itself. (See page 27).
- If your UNIX asks for the LPD type, be sure to identify the service type as BSD. The Print Server's LPD protocol meets BSD system standards.
- In the sample commands shown, *printer_name* is the name of the Print Queue serviced by the Print Server, and *Spooler_directory* is the name of the directory used to spool the print jobs.

Procedure

Action	Sample Command
Stop Print Services	/usr/lib/lpshut
Add a System Printer	/usr/lib/lpadmin -p *printer_name* -v /dev/null
Restart the Print Services	/usr/lib/lpsched
Enable printing to the new printer device	enable *printer_name*
Start accepting jobs for the new printer device	accept *printer_name*
Create a spooling directory	mkdir /usr/spool/*Spooler_directory*
Make spooling daemon the owner of this directory	chown daemon */usr/spool/Spooler_directory*
Create read/write permissions	chmod 775 */usr/spool/Spooler_directory*
Give permissions to LPD processes.	chgrp daemon */usr/spool/Spooler_directory*
Add remote printer(s)	(See following section).

Adding Remote Printers

A remote printer is added by inserting the following line in the /etc/printcap file.

The entry is really one line, but can be entered as shown. Use a TAB character where shown.

printer_name|**Remote_Printer_Alias:**\
[TAB] **:lp=:**\
[TAB] **:rm=***PS_NAME***:**\
[TAB] **:rp=***Logical_Printer_name***:**\
[TAB] **:sd=***Spooler_directory***:**\
[TAB] **:mx#0:**

Where

printer_name is the Print Queue name used to store jobs for the corresponding logical printer
PS_NAME is the Print Server name defined in /etc/hosts
Logical_Printer_name is the logical printer name on the Print Server (L1..L3 or L1..L8, depending on your model)
Spooler_directory is the directory you created in Step 6.

Example:

```
Marketing|RP1_SC123456:\
[TAB] :lp=:\
[TAB] :rm=PS_Rm203:\
[TAB] :rp=L1:\
[TAB] :sd=/usr/spool/Marketing:\
[TAB] :mx#0:
```

Repeat this process for each Logical Printer/Print Queue combination that you wish to create.

LPD on BSD

Before continuing, ensure that an IP Address has been assigned to the Print Server. Remember the following:

- The **remote host name** is the name of the Print Server.
- The **remote printer name** is the logical printer (L1..L3, or L1..L8) on the Print Server.
- If asked for the LPD type, enter the service type as BSD.
- In the sample commands shown, *printer_name* is the Print Queue serviced by the logical printer on the Print Server, and *Spooler_dir* is the name of the directory used to spool the print jobs.

Procedure

Action	Sample Command
Create a spooling directory	mkdir /usr/spool/*Spooler_dir*
Set spooling daemon as owner of this directory.	chown daemon */usr/spool/Spooler_dir*
Create read/write permissions.	chmod 775 */usr/spool/Spooler_dir*
Give permissions to LPD processes.	chgrp daemon */usr/spool/Spooler_dir*
Add remote printer(s)	See *Adding Remote Printers* on page 32.
Start lpc print mechanism	lpc start *printer_name*

Printing using LPD

For LPD printing instructions, refer to your UNIX manual. The following example is for a BSD system:

```
lpr  -P printer_name filename
```

Where

printer_name is the name of the Print Queue defined on the Unix host.
filename is the name of the file you wish to print.

Example:

```
lpr -P Marketing /etc/hosts
```

In the above example, the /etc/hosts file is sent to the printer queue Marketing. It will then be sent to the logical printer associated with this queue.

Printing using FTP

Details on using FTP are on page 39. Printing using FTP uses the following syntax:

```
#ftp Name
ftp>put FileName Ln
```

Where:

Name is the name of the Print Server
FileName is the file to be printed.
n is the number of the logical printer.

Example:

```
#ftp Marketing
ftp>put /etc/hosts L2
```

This example would print the file /etc/hosts to logical printer 2 on the Print Server named Marketing.

Printing using FTP is NOT recommended, because:

- There can be only 1 FTP connection, so at any time only one user can print, even on multi-port models.
- Print jobs are not spooled (queued).

Printing Using DSI

Logical printers must be configured on the Print Server as explained in *Logical Printers* on page 27. Your model may support 8 logical Printers. However, DSI on the Print Server supports only 3 Logical Printers

Socket numbers are defined as follows:

Logical Printer No.	Socket No.
1	4010
2	4020
3	4030

Printing Using PSfilter

PSfilter is a proprietary printing system which provides many print options. To use PSfilter, a C compiler and Socket Library must exist on the host so that psfilter.c can be compiled to an executable file.

PSfilter Setup

The PSfilter program is shipped in source code as *psfilter.c*. Three methods are provided to setup the Print Server for PSfilter printing.

- Quickset
- Interactive setup
- Manual setup

Quickset and Interactive Setup execute the proprietary *install.sh* program which will compile psfilter.c. Using one of these methods is recommended.
However, for IMB AIX, you must use the Manual setup.

Setup Instructions

Detailed instructions for installing and configuring PSfilter are provided in the following files. These files, along with PSfilter.c, are stored on the CD-ROM in the following directories:

\driver\lpti\lpsource (text format)

\driver\lpti\tar (tar format)

Operating System	File
SCO UNIX System V Release 3	SCO.TXT
HP UXIX on HP workstation	HP.TXT
Sun 5.x on Sun SPARC workstation	SUN5.TXT
Sun 4.x on Sun SPARC workstation	SUN4.TXT
AT&T UNIX SV Release 4	SVR4.TXT
DEC/OSF1	DECOSF1.TXT
IBM AIX	AIX.TXT
UNIXWare	UNIXWARE.TXT

If your system is not listed above, do not attempt to use the Psfilter method of printing.

PSfilter Printing Methods

PSfilter printing provides two methods to print jobs:

♦ Redirect Printing

With Redirect printing, you print jobs using system print commands (e.g. lp). The print job is redirected though PSfilter to the Print Server. Redirect printing is the recommended print method because jobs are spooled.

♦ Direct Printing

Here, PSfilter commands are used to print your job without going through the host print queue. This method is recommended only for test purposes.

Windows NT Host Configuration

This section covers configuration of a Windows NT host. The Print Server should be configured first. For Windows NT configuration in a Peer-to-Peer environment, see *Chapter 7 - Windows Peer-to-Peer.*

IP Address Configuration

To have the Print Server recognized as a valid device, first configure it, then follow this procedure.

1. Add an entry for the Print Server to the hosts file:

   \SYSTEM32\DRIVERS\ETC\HOSTS

   The entry consists of the following line:

   ```
   xxx.xxx.xxx.xxx Name
   ```

   Where

   xxx.xxx.xxx.xxx is the IP Address you assigned to the Print Server
   Name is the Print Server's name. If you have not changed the name, use the default name shown on a sticker on the base of the device.

2. Reboot to have these changes take effect.
3. Have Windows NT automatically add an entry to the ARP table by entering the following commands:

   ```
   ping Name
   arp -a
   ```

The Print Server should respond to the ping. If it doesn't, there is something wrong with the IP addressing.

Preparing for TCP/IP Printing

To create a TCP/IP remote printer Microsoft TCP/IP printing support must be installed. The procedure is as follows.

Windows NT 3.51

1. Start the *Network* option in Control Panel. When the Network Settings dialog box appears, click the *Add Software* button to display the *Add Network Software* dialog box.
2. Select *TCP/IP Protocol And Related Components* in the Network Software list box, and then click the *Continue* button.
3. In the *Windows NT TCP/IP Installation Options* dialog box, check the *TCP/IP Network Printing Support* option.
4. Click the *OK* button. Windows NT Setup will display a message asking for the full path to the Windows NT distribution files. Provide the appropriate location and click the *Continue* button. All necessary files will be copied to your hard disk.
5. If you did not check the *Enable Automatic DHCP Configuration* option in the *Windows NT TCP/IP Installation Options* dialog box, you must complete all the required TCP/IP configuration procedures manually.
6. After you finish configuring TCP/IP, the *Network Settings* dialog box will reappear, click the *Close* button and then restart your computer for the changes to take effect.

Windows NT 4.0

1. Go to Start➔Settings➔Control Panel➔Network.
2. Click the *Service* option and ensure that **Simple TCP/IP Service** and **Microsoft TCP/IP Printing** are enabled. If they are not enabled, select the Add option and enable them as usual.
3. If you added services in step 2, reboot the computer for the changes to take affect.

Adding a TCP/IP Remote Printer

Windows 3.51

1. From the *Printer* menu in *Print Manager*, choose *Create Printer*
2. In the resulting dialog box, enter data as follows:

Printer Name	Enter a name (up to 32 characters). This name appears in the title bar of the printer window.
Driver	Select the appropriate driver for the attached printer.
Description	Enter a printer description for other network users to reference.
Print To	Select *Other*.

3. A *Print Destinations* dialog box will appear after selecting *Other*. In the *Available Print Monitor* list, select *LPR Port*, then *OK*.
4. An *Add LPR compatible printer* window will appear. Enter data in the fields as follows:

Name Or Address Of Host Providing LPD	Enter the IP address of the Print Server
Name Of Printer On That Machine	Enter the appropriate logical printer number (e.g. L1)

5. When the *Create Printer* dialog box reappears, check the *Share This Printer On The Network* option.
6. In the *Share Name* box, Printer Manager creates a MS-DOS compatible resource name, which you can change if you wish. In the *Location* box, you can enter information concerning the printer location.
   Network users will see this information when browsing to find this printer.
7. Complete any other configuration information in the *Create Printer* dialog box.

Windows NT 4.0

1. Go to Start➔Settings➔Printer and invoke the *Add Printer* wizard.
2. When prompted with *This printer will be managed by*, select **My Computer** and click Next.
3. Select **Add Port…**, then select **LPR Port** and click **New Port**.
4. In the *Name of Address of server providing lpd:* dialog box, enter the Print Server's IP address.
5. In the *Name of printer or print queue on that server* dialog box, enter the appropriate logical printer number (L1..L3, or L1..L8, depending on the model) as previously configured on the Print Server.
6. Click *OK*. When returned to the *Printer Ports* window, simply elect *Close* and then install your printer driver as usual.
7. When prompted whether or not the printer will be shared, select the **Sharing** radio button
8. In the *Shared* dialog box, enter the shared printer name. The shared name is how other users will see this printer.

Printing with Windows NT

Windows Applications

The Print Server's printers will appear as Network Printers to users on the LAN. To print a file from a application, select the remote printer as the destination, and print the file as usual.

Command Line

To print a file from the command prompt, type:

```
lpr -S NT_Host -P printer_name file_name
```

Where

NT_Host is the name of the NT host on which the remote printer is configured.
printer_name is the name assigned to the remote printer
file_name is the name of the file you wish to print.

To check the print status, type:

```
lpq -S NT_Host -P printer_name
```

Chapter 6

TCP/IP Features

This Chapter describes some features of the Print Server which are available only in the TCP/IP environment.

The features covered in this chapter are:

- FTP
- Internet Printing (EP3003 CheetahPrint Power-3003 only)
- SNMP (EP3003 CheetahPrint Power-3003 only)
- Telnet

FTP

FTP (File Transfer Protocol) allows a user to log-on to a remote host, and manipulate files on the host. The Print Server can act as a FTP host, with the following limitations:

- Only one FTP user can connect to the Print Server.
- Only "command line" FTP programs can be used. FTP programs which attempt to "browse" the file system are NOT supported.

Using FTP

1. Start your FTP client from the command prompt (GUI interface FTP clients are NOT supported) and connect to the Print Server using its IP Address.

   ```
   e.g. ftp  203.70.212.155
   ```

   If your system has been configured as described in Unix Host Configuration on page 28 , you can connect using the Print Server's name, rather than the IP Address.

2. The Print Server will respond with "Print Server Ready" and prompt for "User". Enter the device name. If you have not previously assigned a name, you must use the default name shown on the sticker on the base of the unit.
3. You will now be prompted for the device password. If no password has been assigned, just press **ENTER** to continue.

Files

The following files will appear on the Print Server when it is acting as an FTP host.

Filename	Purpose	Mode
CONFIG	Configuration file	Read/Write (get, put)
DEFAULTC	Reset device to default configuration	Read (get)
PSINF	Device information	Read (get)
PASSRESET	Clear password	Read (get)
RESET	Reset device	Read (get)
SETIP	Save current IP address	Read (get)

Commands

Only the following commands are implemented. Commands are usually case sensitive. Where the command requires a parameter, the parameter is shown in *italics*.

dir

List files (as shown in the previous table).

get *FILENAME*

Retrieve a file. The only files that can be retrieved are CONFIG and PSINF. Using GET with the other "files" will activate a command, as follows:

get DEFAULTC	Set the Print Server back to its default configuration.
get RESET	Reset the Print Server. This also terminates the current connection.
get PASSRESET	Clear password (no password).
get SETIP	Set the current IP address as a static IP address.

Do NOT use the SETIP command if the device has an IP Address assigned by a DHCP server. This will cause an Address conflict.

put CONFIG

Copy the file CONFIG to the device, overwriting the existing CONFIG file. Details of the format of CONFIG files are contained in *Appendix B - Configuration File Format*.

After using the **put CONFIG** *command to write a new configuration file to the device, you should issue a* **get RESET** *command.*
The red LED should then go on while the unit is resetting. When the red LED goes OFF and the green LED starts flashing, the unit is ready. A RESET will terminate the current connection.

put PASSWORD

Copy the file PASSWORD to the Print Server, giving it a new password. Passwords can be up to 19 bytes in length.

put *filename* L*n*

Copy the file *filename* to the printer connected to Logical Port *n*, where *n* is a Logical Port number. This will print the file.

quit

Terminate the current FTP session.

Other FTP Commands

The other FTP commands are not implemented, and will usually return the error message *Invalid command*.

Example - Initial Configuration

1. Connect to the Print Server.

   ```
   ftp NAME
   ```

   You can only connect using a name instead of an IP Address if your system has been configured as described on page 26.

2. You will be prompted for *User*. Enter the default name (on the base of the device). When prompted for the password, press ENTER.
3. Copy the configuration file **CONFIG**, to your system, then quit.

   ```
   ftp>get CONFIG
   ftp>quit
   ```

4. Edit the CONFIG file to set parameters in the following four lines in the file.

   ```
   0001 BOX_NAME:Name
   4000 IP_ADDR:x.x.x.x
   4001 GATEWAY:y.y.y.y
   4002 MASK:z.z.z.z
   ```

   Where

   New_Name is the Print Server's name
   x.x.x.x is the IP Address assigned to the Print Server
   y.y.y.y is the IP Address of your router
   z.z.z.z is the network mask, if assigned.

5. Copy the CONFIG file back to the Print Server, reset, and quit:

   ```
   ftp NAME
   ftp>put CONFIG
   ftp>get RESET
   ftp>quit
   ```

Internet Printing

Internet Printing is available only on model EP3003 CheetahPrint Power-3003.

The Internet Printing System allows users to print data to your printer across the Internet. Users send the Internet Print Server an E Mail, with the print job normally sent as an attachment to the E Mail. The Print Server will retrieve the E Mail and print it.

System Requirements

Mail Server

- **Accessibility.** The Mail Server must be accessible by the intended clients or users. Normally, this means a permanent connection to the Internet.
- **Protocols.** The Mail Server must support the POP3 and SMTP protocols. The Internet Printing System uses these protocols and the most common E Mail formatting standards:
  - MIME (Multipurpose Internet Mail Extensions)
  - Base64 Encoding (for mail attachments)

EP3003 CheetahPrint Power-3003

- **TCIP/IP Protocol.** The LAN on which the EP3003 CheetahPrint Power-3003 is installed must use the TCP/IP protocol.
- **Mail Server Access.** The EP3003 Print Server must be able to access the Mail Server using a single IP address.
- **Mail Account.** The EP3003 Print Server must have a Mail Account. Users print by sending an E Mail to this mail account.

User (Client) Requirements

- **Internet Connection.** Either through a LAN, or dial-up.
- **E Mail address.** This is used to notify the user that their print job has been done, or if there any problems.
- **Printer Driver.** Users must have a printer driver which matches the printer connected to the remote Internet Print Server.
- **Print Capture Software.** To print more than plain text, users require InterNet Printing Port software to capture the print job and convert it into an E Mail attachment.
  The InterNet Printing Port software is available for the following operating systems:
  - Microsoft Windows 95
  - Microsoft Windows NT 3.51 or later.

Internet Mail Printing Configuration

The BiAdmin program (see *Chapter 8 - Management Tools*) can be used to set the following entries on the TCP/IP screen. FTP can also be used; the number in brackets shows the line number in the Print Server's CONFIG file.

Mail Server IP Address (4100 MAIL_IP)	The IP Address of the E Mail Server used by the Print Server.
Mail Account (4101 MAIL_ACC)	The name of the E Mail Account used by the Print Server.
Mail Account Password (4102 MAIL_PAS)	Enter the password for the above Mail Account here.
Check Mail Interval (4103 MAIL_INT)	Sets how often to check for mail. Values range from 0 to 65,535 minutes, with 0 meaning a continuous connection and 1 as the default.
Print Banner (4104 MAIL_BAN)	If YES (default), a banner page is printed to identify the owner of the print job.
Redirect Mail Account (4105 MAIL_RED)	Jobs which can not be printed will be sent to this account. If blank, unprintable jobs will be discarded.
Default Printer Number (4106 MAIL_POR)	Printer number for all Internet print jobs. Only one port can be selected. Users on the LAN can also use this port.
Print every E Mail (4107 MAIL_EVR)	If ON, then all E Mail received is printed. Otherwise, only E Mail from the InterNet Printing Port will be printed.
Activate Response Mail (4108 MAIL_NOT)	If YES, all print jobs receive an E mail response. If NO, only users who set this option in their InterNet Printing Port software receive an E Mail
Printer Model ID String (4109 MAIL_MOD)	This text field identifies the printer used for Internet printing. This value is sent to remote users upon request.

User Software

The software provided for remote users (InterNet Printing Port) should be installed by all everyone intending to use Internet printing. Otherwise, remote users can print correctly only if:

- They send an E Mail directly to the Print Server Mail Account, using their normal E Mail application.
- The E Mail contains plain text only.
- The Internet Print Server is configured with *Print every E Mail* ON.

Installation of the InterNet Printing Port software will create a new printer port. After attaching the correct printer to this port, users can print to the Internet Printer using any Windows application.

Installation

1. Run the InterNet Printing Port installation program SETUP.EXE
2. Default values for the installation are:

Directory	C:\Program Files\Internet_Printer
***Start Menu* folder**	InterNet Printing Port Driver

3. You will then see the *Configure Port* screen, as shown in the following screenshot.

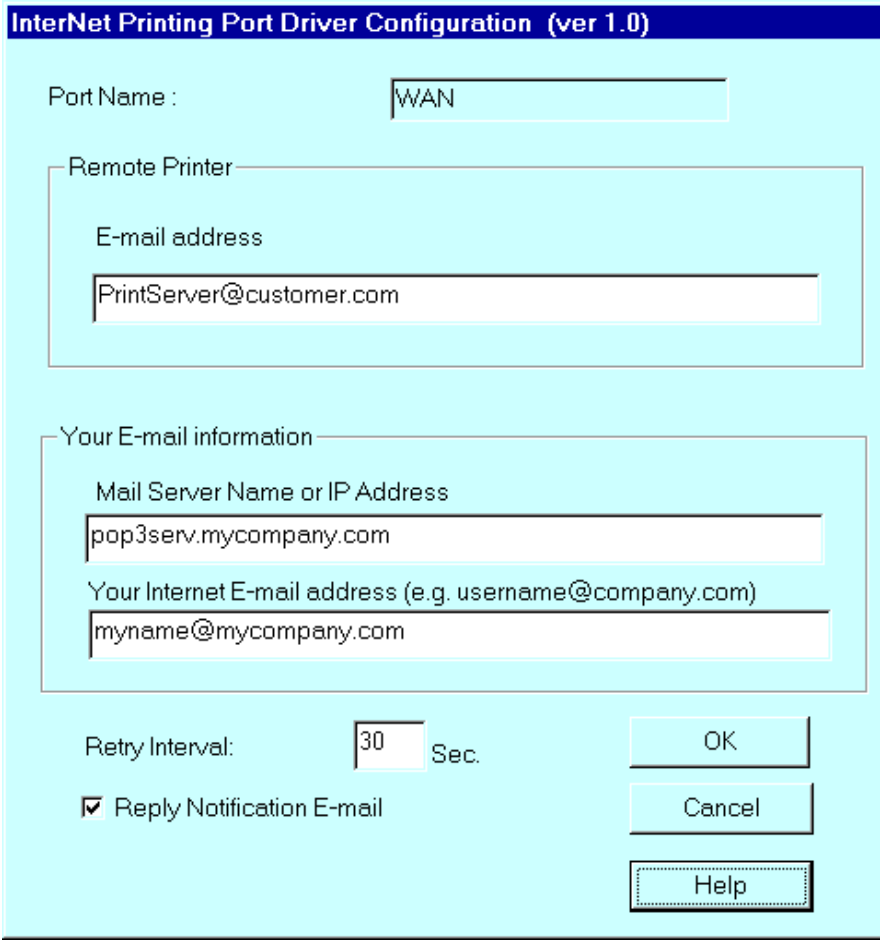


Figure 3 InterNet Printer Port

4. The following data must be provided.

Port Name	Enter a descriptive name (e.g. "WAN") for the new printer port.
Remote Printer E-mail Address	The E Mail address for the Internet printer. Your print jobs will be sent to this E Mail address.
Mail Server Name or IP Address	This is the name or IP Address of your Mail Server. If you are on a LAN, ask the LAN Administrator. If using a dial-up connection, use the data provided by your ISP.

Your Internet E-mail Address	The normal address that people use to send you E-mail.
Retry Interval (Seconds)	If unable to connect to the E Mail server, retry after this time period (1 to 255 seconds, 30 is usually OK).
Reply Notification Mail	Check to receive an E Mail when your print job has been processed.

5. On completion, a new printer port will have been created.

Using the new Port

The Windows Control Panel is used to connect the correct printer to the InterNet Printing Port. In Windows 95/NT, the procedure is:

1. Select the Printer which matches the remote printer, then choose *Properties*, as shown in the example below.

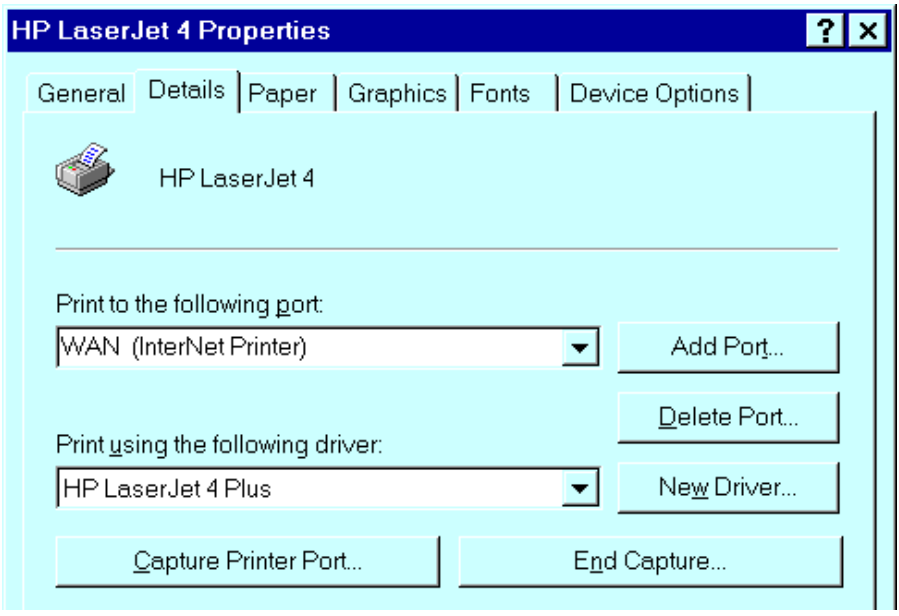


Figure 4 InterNet Printer Properties

2. Select the new port - WAN (InterNet Printer) in the example - as the port for this printer.

   - If you do not have the correct printer driver, or you wish to create another printer using an existing driver, use the Windows *Add Printer* facility.
   - Using the Windows *Port Settings* or *Configure Port* facility will reveal the same *Configure Port* screen shown in *Figure 3 InterNet Printer Port* on page 44.
   - If you wish to print to multiple Internet Printers, use the Windows *Add Port* facility to add a new InterNet Printer port. Ensure that the correct data is entered in each port, and that each port has a unique name.

Checking the Printer Driver

To make sure that the correct printer driver for the remote printer is installed on your system, you can use the InterNet Printing Port to send an E Mail to the Internet Printer. The procedure is as follows:

1. Connect your default printer to the InterNet Printing Port.
2. Check that "Reply Notification Mail" in the InterNet Printing Port is ON.
3. From Notepad or another text editor, print a short message (e.g. "This is a test print") to the Internet Printer.

   You will receive a reply E Mail containing the "Printer ID" which will identify the printer attached to the Print Server. If this does not match the printer driver you are using, install the correct printer driver.

Printing

1. Create or open the document you wish to print.
2. Select the Printer connected to the InterNet Printing Port.
3. If you do not have a permanent Internet connection, establish a connection now. (**Note**: The InterNet Printing Port will NOT establish a dial-up connection, but it will send the E Mail the next time you are connected.)
4. Print the document.
5. The InterNet Printing Port will generate an E Mail and send it to the remote printer. The document will be encoded and sent as an attachment to the E Mail. You will see a progress screen similar to the example below:

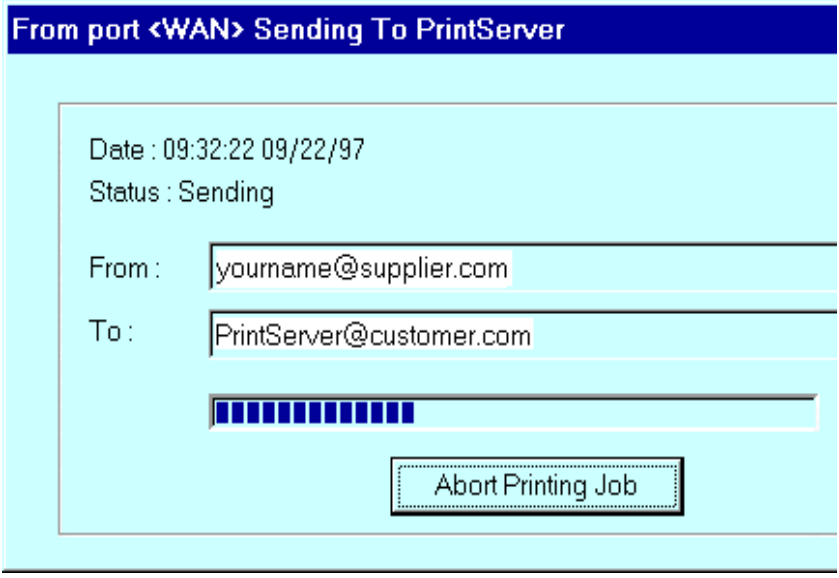


Figure 5 InterNet Printing Progress

6. Close the Internet connection if you opened it in Step 3.
7. If the "Notify after print job" option is set, you will receive an E Mail when your job is printed.

Canceling a Print Job

Users cannot cancel a Print Job once it has been sent, but Print Jobs can be canceled at the Print Server. In BiAdmin (see *Chapter 8 - Management Tools*), the *Control - Abort Mail Print Job* menu option can be used to cancel a print job which has already started printing.

SNMP Management

SNMP (Simple Network Management Protocol) is available only on model EP3003 CheetahPrint Power-3003.

The EP3003 CheetahPrint Power-3003's SNMP support allows network supervisors to monitor and control the Print Server using network management platforms such as HP OpenView, IBM SystemView, etc. This is accomplished through the SNMP **agent** and the SNMP **MIB**.

The **agent** (device software) responds to standard SNMP commands and reports device configuration and conditions. When a change in condition occurs, the SNMP agent will send a message (a **Trap**) to the associated management station.

The EP3003 CheetahPrint Power-3003's **SNMP MIB** is a collection of objects that are monitored and controlled using SNMP's ***get*** and ***set*** commands. The MIB files are in the Mib folder on the CD-ROM. The appropriate .MIB file must be imported into your SNMP management program:

- Mib1p.mib Single port models
- Mib2p1s.mib Two parallel ports, 1 serial port model
- Mib3p.mib Three parallel port model

Preparing the Print Server for SNMP

Before attempting to manage the Print Server using a SNMP Management station, the following settings should be assigned to it, in addition to the IP Addresses covered in *IP Address Configuration* on page 25. These settings can be made using FTP, BiAdmin, or WebAdmin.

The number and token in brackets shows the line number in the Print Server CONFIG file.

SNMP Settings

SysContact (6000 CONTACT)	Text Field - Name of the contact person.
SysLocation (6001 LOCATION)	Text Field - Location of the contact person.
Management Station IP Address(s) (6011 M1_IP) (6021 M2_IP) (6031 M3_IP) (6041 M4_IP)	Up to 4 Management Stations can be entered.
Trap Receiving IP Address(s) (6111 T1_IP) (6121 T2_IP) (6131 T3_IP) (6141 T4_IP)	Up to 4 Trap Receiving Stations can be entered.

Management Station Settings

For each Management Station, the following fields are available.

Access Permission (6012 M1_ACCP) 6022 M2, 6032 M3, 6042 M4	Options are: Read Only Read/Write Not Accessible.
Community String (6013 M1_CSR) 6023 M2, 6033 M3, 6043 M4	Leaving this blank will disable management by this station.

Trap Receiving Station Settings

For each Trap Receiving Station, the following fields are available.

Community String (6113 T1_CSTR) 6123 T2, 6133 T3, 6143 T4	Leaving this blank will disable management by this station.
Trap Enable (6114 T1_ENAB) 6124 T2, 6134 T3, 6144 T4	Use this option to Enable/Disable Trap Receiving by this station.
Trap Severity (6112 T1_S) 6122 T2, 6132 T3, 6142 T4	In this version, all traps are level 1. Levels 2 and 3 will be implemented in future versions.

Print Server MIB

The Print Server MIB contains 96 objects that have been divided into 13 distinct groups, including one trap, according to their functions. Below is a listing of the MIB groups as they are seen in the MIB:

PSSystemConfig
PSLogicalPrinterConfig
PSNetwareConfig
PSTcpipConfig
PSAppletalkConfig
PSNetbeuiConfig
PSStatus
PSIpxStatistics
PSAppletalkStatistics
PSTcpipStatistics
PSControlConfig
PSSerialConfig
Traps

A complete listing of all MIB objects is contained in *Appendix C - SNMP MIB*.

The Print Server MIB needs to be installed on each management station, using the *Import-Compile* commands of your SNMP management program. Check your management program for details on this procedure.

Telnet

Telnet can be used to monitor the status of the printers attached to the Print Server.

Operation

Establish a connection to the Print Server, by starting your Telnet program and providing the IP Address of the Print Server. (No port number is required.)

The will respond with "Welcome to Print Server".

From the resulting prompt,3 commands are possible:

- Help: Show brief help
- Monitor: show printer status
- Exit: leave telnet

Monitoring

The "Monitor" command will show the status of the printer, on each port, as shown in the following example.

```
(P1)STATE: Idle
TYPE: Parallel
PRINTER STATUS: Out Of Paper

(P2)STATE: Printing
TYPE: Parallel
PRINTER STATUS: On-Line
BYTES SERVICED:      75264
OCCUPIED BY: LPD

(SP)STATE: Idle
TYPE: Serial
PRINTER STATUS: Offline
```

The display is updated once per second.

Chapter 7

Windows Peer-to-Peer

This chapter describes operation in a Windows Peer-to-Peer Networking environment

Software Requirements

Operating Systems

Windows 95, Windows NT 4.0, Windows NT 3.51, or Windows for Workgroups

LAN Protocols

For Windows 95 or NT, the following protocols are supported:

- TCP/IP
- NetBEUI
- Windows SMB (Server Message Block)

In Windows for Workgroups, the following protocols are supported:

- NetBEUI
- Windows SMB (Server Message Block)

The procedures for each situation are described in the following sections.

TCP/IP

The following steps must be carried out.

- Software Installation
- Device configuration
- Software configuration

Software Installation

Software installation must be carried out on every Windows 95 or Windows NT workstation intended to use the Print Server's printers.

1. Run the **SETUP** program in the Driver\ptp_95nt folder on the CD-ROM.
2. At the *Select Components* window, select the *TCP/IP* protocol.
3. Once TCP/IP is selected, the *Select Components* screen will present 2 options:
   - Install Device Driver
   - Install SETBOX Program

   The Device Driver needs to be installed on all workstations. The SETBOX program is only used to assign IP Addresses to the Print Server. If you are using the BiAdmin management program, you do NOT need SETBOX at all. Otherwise, SETBOX should be installed only on the system administrator's PC.
4. Complete the installation as normal. Reboot your system when setup is complete.
5. The Setup program will do the following:

- Create the following icons: Readme, UnInstall, and Setbox (if the Setbox installation option was selected).
- Add the driver, prtserv.dll, to the Windows\System directory (Win 95) or Windows\System32 directory (Windows NT).
- Add the Uninstall program to the Windows directory.
- Add Uninstall information files, the Setbox program (if installed) and the Readme file to the installation directory.

Device Configuration

The Print Server device must be configured with the following information. Device configuration should be performed prior to software configuration on the PCs.

Setting	Recommended Value
Device Name	Shown on a sticker on the base of the device in the form SCxxxxxx (SC and 6 digits).
Device IP Address	192.168.0.1 (if not already assigned)
Gateway IP Address	0.0.0.0
Subnet Mask	0.0.0.0

These values are appropriate in the Peer-to Peer environment. For more complicated situations, refer to *Chapter 5 - TCP/IP*. Ensure that the IP Address assigned to the device is not already in use.

Either the BiAdmin program (see Chapter 8) or SETBOX can be used for configuration. When SETBOX is run, its screen will look like the following.

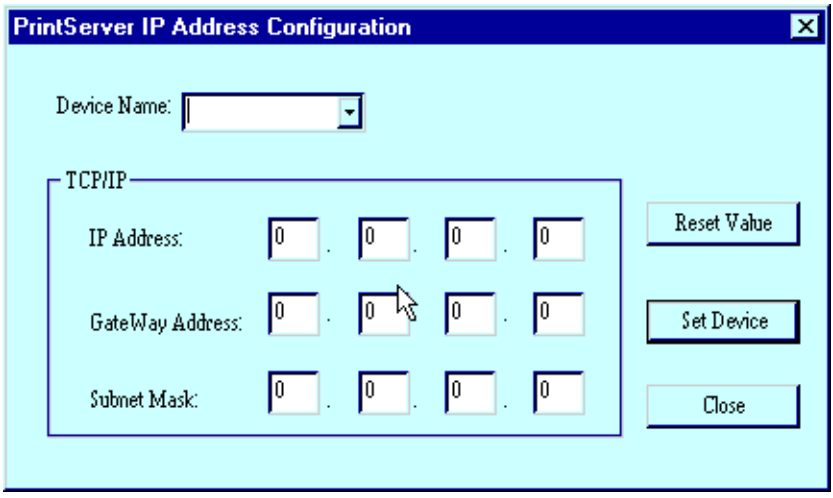


Figure 6 SetBox

Set Device sets the data entered. You also have the option of saving the IP Address to a file, so that when the software is installed on other workstations, users will not have to re-enter the IP Address. This option will only work if you have copied all the setup files to a floppy disk, and are running SETBOX from the floppy.

Reset Value will set all values back to zeros.

Software Configuration

Windows 95/NT 4.0

This procedure must be carried out on every workstation requiring access to the Print Server's printers. The Print Server driver must be installed first. The process is identical in Windows 95 and Windows NT 4.0. The sample screens are from Windows 95.

Before proceeding, check the following:

- Print Server is ON and configured (if using TCP/IP)
- Printer(s) connected to the Print Server, and on-line.
- LAN is operational and using the appropriate protocol (either TCP/IP or NetBEUI).

First Port Configuration

1. Go to Start➔Settings➔Printers. Invoke the *Add Printer* Wizard.
2. Select the **Local printer** (**My Computer** on NT) option.
3. Choose the Printer Model on the Print Server's first port.
4. Select **PrintServer** as the port in the *Select Port* screen.
5. Select the **Configure Port** button. The following *Configure Print Server* screen will appear

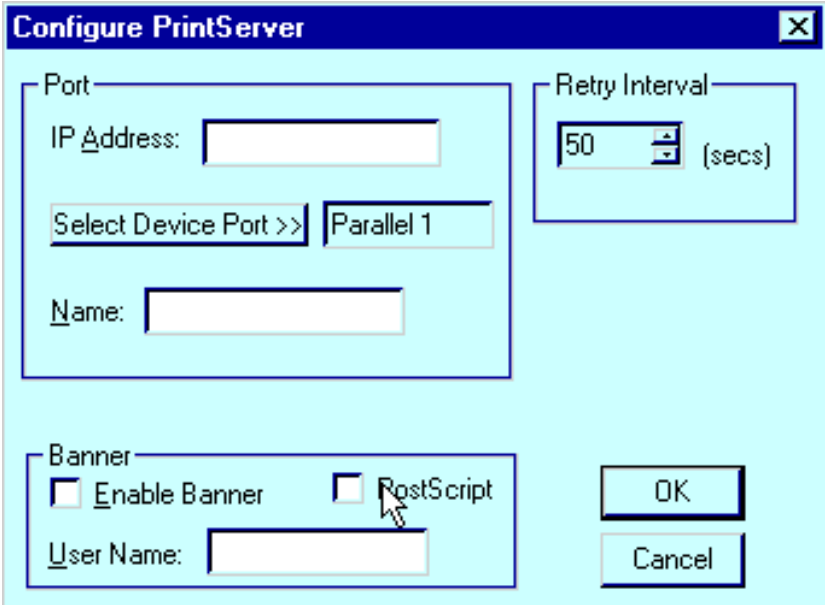


Figure 7 TCP/IP Configuration (Win95 PtP)

6. Enter the configuration information as detailed below.

IP Address	Enter the IP address that was assigned to the Print Server
Select Device Port	Select the Print Server port that the printer is connected to (e.g. Parallel port 1).

Port Name	Each port must have a unique name (8 alpha-numeric characters). The Port Name will be shown in the Printer's properties. Use a name which indicates the port used (e.g. Par_1)
Enable Banner	Select this option to enable a banner page. The Banner page contain the value in the **User Name** field.
PostScript	If using a PostScript Printer and banner page is enabled, enable this option. Not enabling this option will cause errors in the print job.
User Name	The user or work group name to be printed on the banner page.
Retry Interval	Sets how often Windows will poll the Print Server to establish a connection when the printer is busy. Values range from 40-110 seconds.

7. Follow the on-screen instructions to finish adding a printer as normal.

Configuring Additional Ports

If you are installing a multiple port Print Server, you must add additional ports and printers. To do so, follow the steps below.

1. Go to the Printers folder and click on the printer just added. Then select File➔Properties. The *Properties* screen will appear.
2. For Windows NT 4.0, select the *Ports* tab. For Windows 95, select the ***Details*** tab and the following screen will appear:

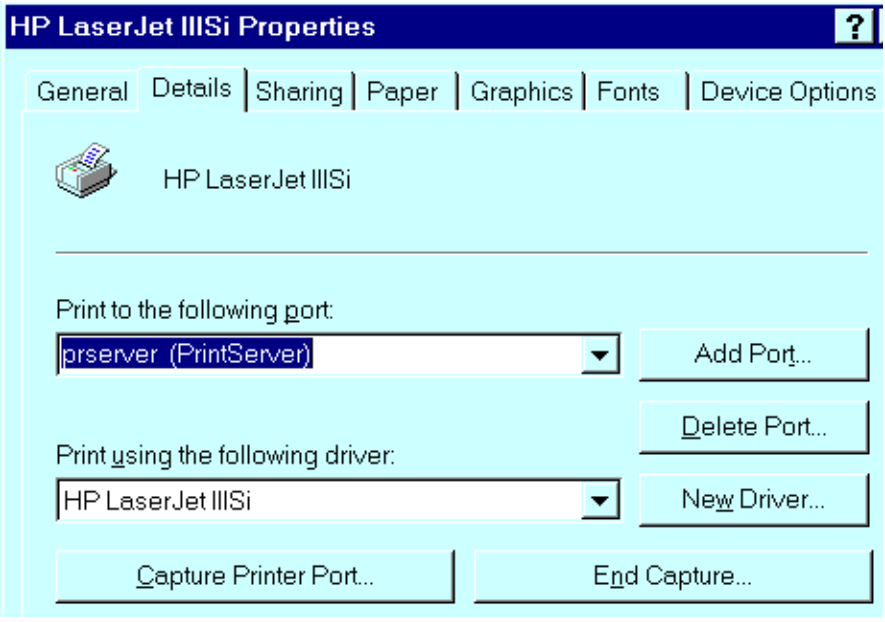


Figure 8 Printer Details (Win95 PtP)

3. Select ***Add Port*** and the following *Add Port* screen will appear:

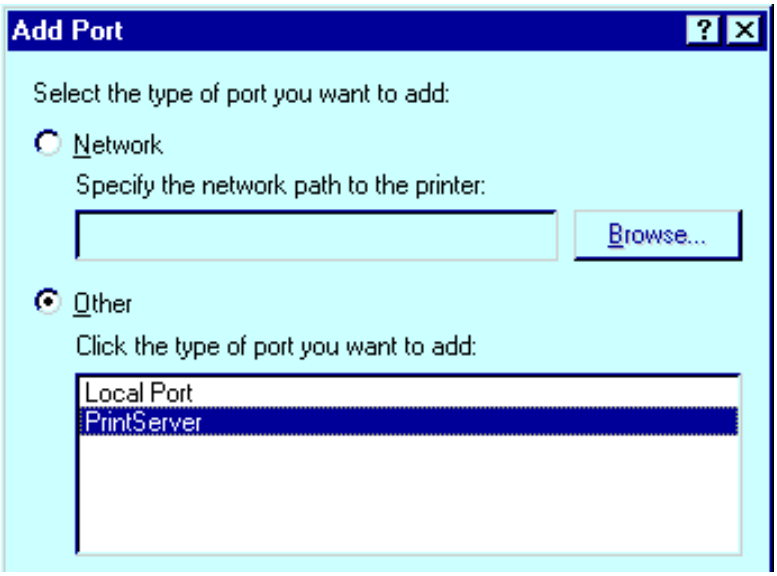


Figure 9 Add Port (Win95 PtP)

1. Select ***Other*** as the type of port you want to add and select ***PrintServer*** from the port list, as shown above.
2. Then click **OK** and the *Configure PrintServer* window will appear.
4. Enter the configuration information as for the first port. Ensure that you select a different Print Server port each time, and assign a unique name to that port (e.g. pserv_2 for parallel port 2).
5. Repeat steps 3, 4, and 5 until all Print Server ports have been added.
6. Install the correct printer for each port. When prompted with the following screen, ensure that you select the port to which the printer is connected.

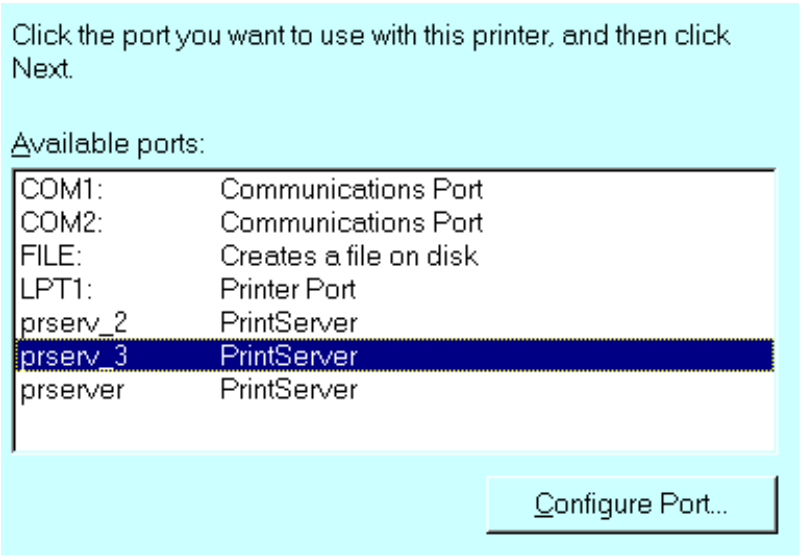


Figure 10 Select Port (Win95 PtP)

Configuration is now complete; you can now print using the printers attached to the Print Server.

Configuration - Windows NT 3.51

This procedure must be carried out on every workstation requiring access to the Print Server's printers. The Print Server driver must be installed first.

Before proceeding, check the following:

- Print Server is ON and configured
- Printer(s) connected to the Print Server, and on-line.
- LAN is operational and using the TCP/IP protocol.

First Port Configuration

1. Go to Printer Manager. Select Printer➔Create Printer.
2. Select the appropriate printer driver for the printer connected to the Print Server's first port.
3. In the *Print to* dialogue box, select **PrintServer**.
4. Click on *Settings*. The *Configure Print Server* window will appear. It will look like one of the screens below.

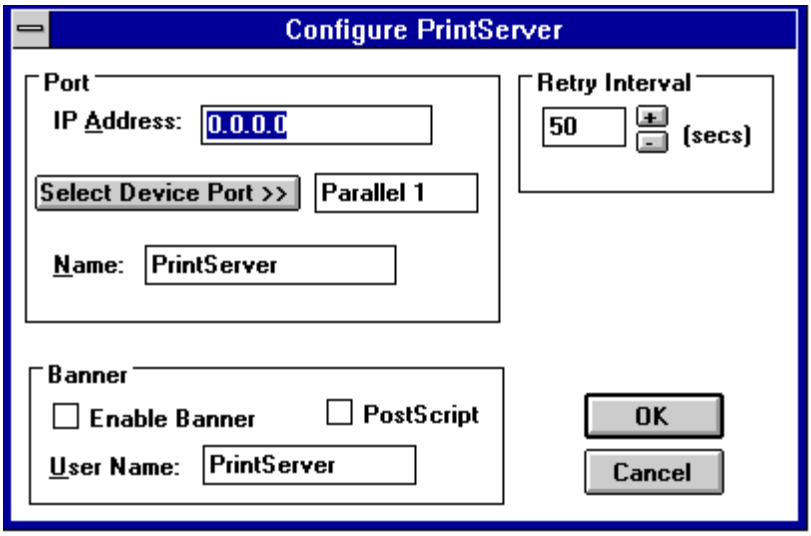


Figure 11 TCP/IP Configuration (NT 3.51 PtP)

5. Enter the configuration information as described below.

IP Address	Enter the IP address that was assigned to the Print Server
Select Device Port	Select the Print Server port that the printer is connected to (e.g. Parallel port 1).
Port Name	Each port must have a unique name (8 alpha-numeric characters). The Port Name will be shown in the Printer's properties. Use a name which indicates the port used (e.g. Par_1)
Enable Banner	Select this option to enable a banner page. The Banner page contain the value in the **User Name** field.
PostScript	If using a PostScript Printer and banner page is enabled, enable this option. Not enabling this option will cause errors in the print job.

User Name	The user or work group name to be printed on the banner page.
Retry Interval	Sets how often Windows will poll the Print Server to establish a connection when the printer is busy. Values range from 40-110 seconds.

6. When finished, click *OK* and the follow the on-screen instructions to finish adding a printer as normal.

Configuring Additional Ports

If you are installing a multi-port Print Server device, you must add additional ports and printers. Follow the steps below.

1. Select the newly added printer using *Printer Manager*. Then go to the Printer menu and select *Properties*. The following *Printer Properties* screen will appear.

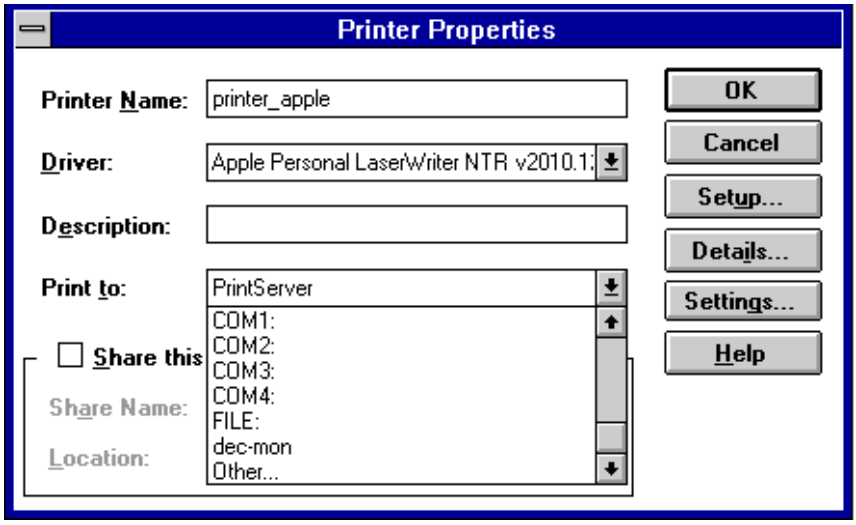


Figure 12 Printer Properties (NT 3.51 PtP)

2. In the Print to dialogue box, select **Other…** and click OK. The *Print Destinations* screen will appear:

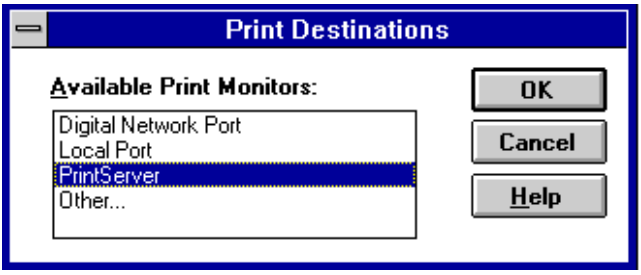


Figure 13 Print Destinations (NT 3.51 PtP)

3. Select **PrintServer** and click **OK**. The *Configure PrintServer* window shown previously will appear.
4. Enter the configuration information as for the first port. Ensure that you select a different Print Server port each time, and assign a unique name to that port (e.g. pserv_2, pserv_3).
5. Repeat steps 2 to 4 until all ports have been added.

6. Install the correct printer for each port. When prompted with the following *Create Printer* screen, ensure that the appropriate **Print to** option is selected for each printer.

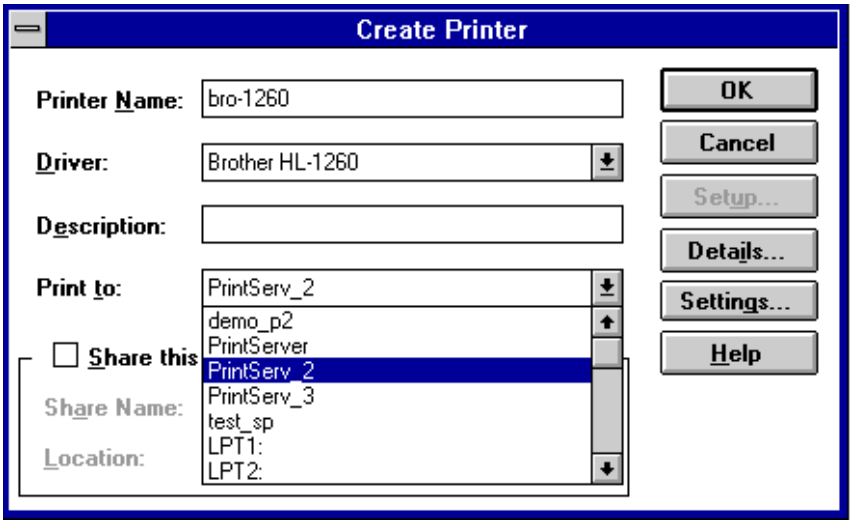


Figure 14 Create Printer (NT 3.51 PtP)

Configuration is now complete. You can now print using the printers connected to the Print Server.

Printing

Once configured, printing to the printers attached to the Print Server is the same as printing with the printer attached directly to your local LPT port. Simply select File➔Print. When the *Print* screen appears, select the appropriate printer and options and click *OK*.

NetBeui

This section describes configuration and operation using the NetBeui protocol.

Device Configuration

If you are using the NetBeui protocol, no device configuration is necessary.

Software Installation

Windows 95/Windows NT

1. Run the **SETUP** program in the Driver\ptp_95nt folder on the CD-ROM.
2. At the *Select Components* window, select the *NetBeui* protocol.
3. The setup program will do the following:
   - Create the following icons: Readme, UnInstall, and Setbox (if the Setbox installation option was selected).
   - Add the driver, prtserv.dll, to the Windows\System directory (Win 95) or Windows\System32 directory (Windows NT).
   - Add the Uninstall program to the Windows directory.
   - Add Uninstall information files, the Setbox program (if installed) and the Readme file to the installation directory.

Windows for Workgroups

The following procedure will install the **Pserver** program. This program is required on every Windows for Workgroups system requiring access to the Print Server's printers.

1. Run the **Setup** program in the Driver\Ptp_wfw directory on the CD-ROM.
2. Follow the on-screen instructions to complete the installation. It is not necessary to reboot your system.
3. The Setup program will:
   - Copy all program files to the installation directory.
   - Copy Uninstall information files and UNINST16.EXE to the installation directory.
   - Create a Program Group, *Print Server*, containing an icon for the Pserver program.
4. Because the Pserver program needs to be loaded to access the Print Server's printers, it is recommended that you copy the Pserver icon to your *Start Up* group. It will then be loaded every time you start Windows.

Software Configuration

Windows 95/NT 4.0

This procedure must be carried out on every workstation requiring access to the Print Server's printers. The Print Server driver must be installed first. The process is identical in Windows 95 and Windows NT 4.0. The sample screens are from Windows 95.

Before proceeding, check the following:

- Print Server is ON and configured (if using TCP/IP)
- Printer(s) connected to the Print Server, and on-line.
- LAN is operational and using the NetBeui protocol.

First Port Configuration

1. Go to Start➔Settings➔Printers. Invoke the *Add Printer* Wizard.
2. Select the **Local printer** (**My Computer** on NT) option.
3. Choose the Printer Model on the Print Server's first port.
4. Select **PrintServer** as the port in the *Select Port* screen.
5. Select the **Configure Port** button. The following *Configure Print Server* screen will appear.

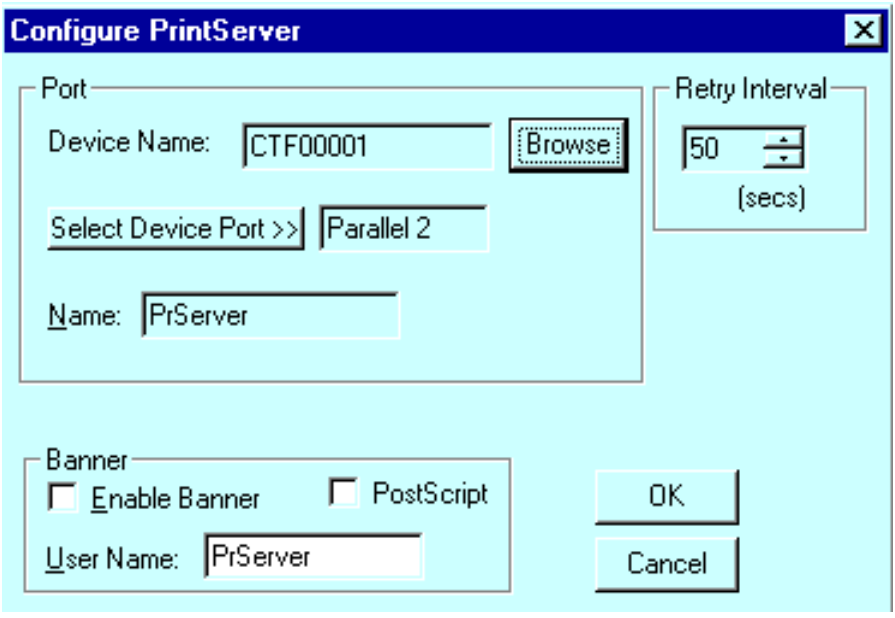


Figure 15 - NetBEUI Configuration (Win95 PtP)

6. Enter the configuration information as detailed below

Device Name	Click *Browse* and select the correct Print Server. The name should not be changed; it is only visible when configuring the device.
Select Device Port	Select the Print Server port that the printer is connected to (e.g. Parallel port 1).
Port Name	On multi-port devices, each port must have a unique name (8 alpha-numeric characters). The Port Name will be shown in the Printer's properties. Use a name which indicates the port used (e.g. Par_1)
Enable Banner	Select this option to enable a banner page. The Banner page contain the value in the **User Name** field.
PostScript	If using a PostScript Printer and banner page is enabled, enable this option. Not enabling this option will cause errors in the print job.
User Name	The user or work group name to be printed on the banner page.

Retry Interval	Sets how often Windows will poll the Print Server to establish a connection when the printer is busy. Values range from 40-110 seconds.

7. Follow the on-screen instructions to finish adding a printer as normal.

Installing Additional Ports

If you are installing a multiple port Print Server, you must add additional ports and printers. To do so, follow the steps below.

1. Go to the Printers folder and click on the printer just added. Then select File➔Properties. The *Properties* screen will appear.
2. For Windows NT 4.0, select the *Ports* tab. For Windows 95, select the ***Details*** tab and the following screen will appear:

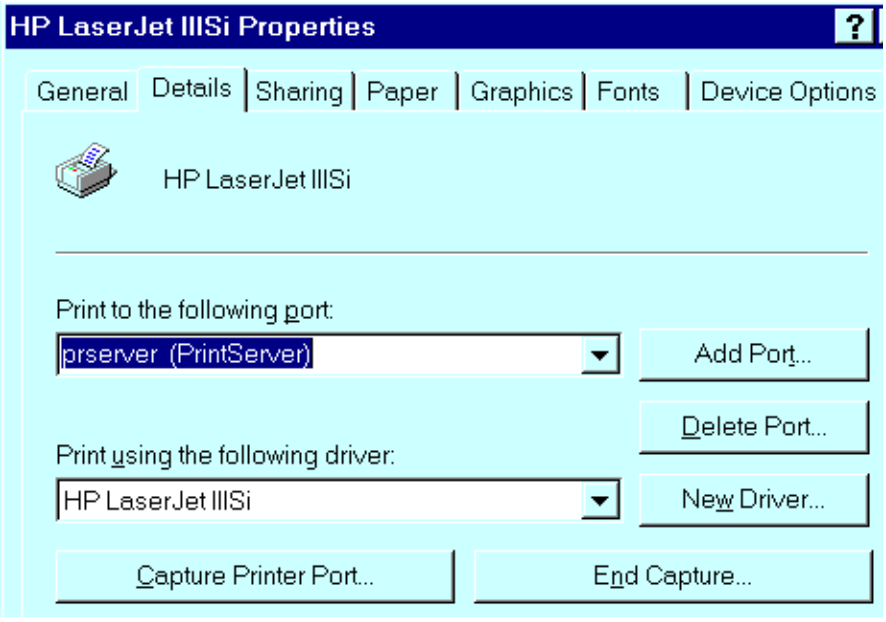


Figure 16 Printer Details (Win95 PtP)

3. Select ***Add Port*** and the following *Add Port* screen will appear:

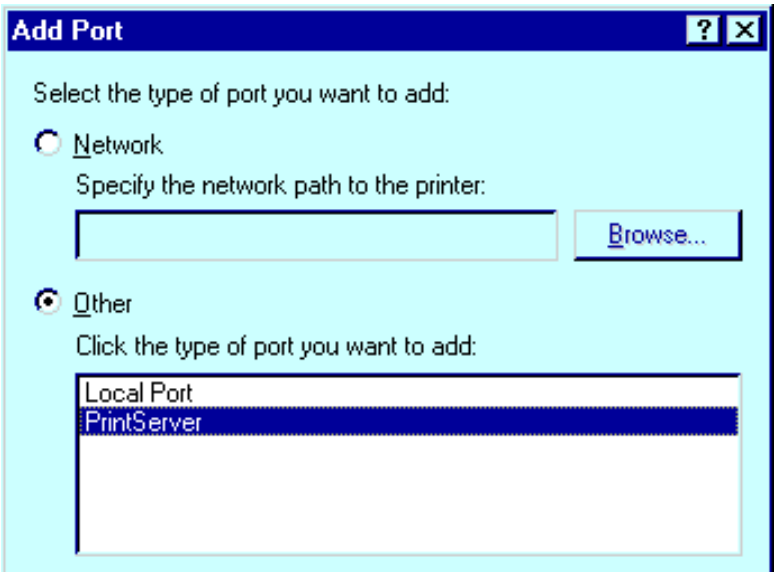


Figure 17 Add Port (Win95 PtP)

4. Select ***Other*** as the type of port you want to add and select ***PrintServer*** from the port list, as shown above.
5. Then click **OK** and the *Configure PrintServer* window will appear.
6. Enter the configuration information as for the first port. Ensure that you select a different Print Server port each time, and assign a unique name to that port (e.g. pserv_2 for parallel port 2).
7. Repeat steps 3 to 6 until all Print Server ports have been added.
8. Install the correct printer for each port. When prompted with the following screen, ensure that you select the port to which the printer is connected.

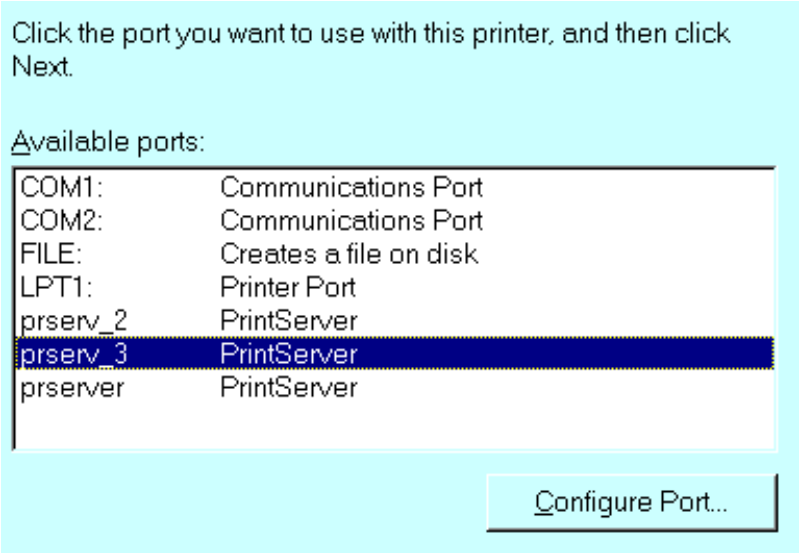


Figure 18 Select Port (Win95 PtP)

Configuration is now complete; you can now print using the printers attached to the Print Server.

Windows NT 3.51

This procedure must be carried out on every workstation requiring access to the Print Server's printers. The Print Server driver must be installed first.

Before proceeding, check the following:

- Printer(s) connected to the Print Server, and on-line.
- LAN is operational and using the NetBEUI protocol.

First Port Configuration

1. Go to Printer Manager. Select Printer➔Create Printer.
2. Select the appropriate printer driver for the printer connected to the Print Server's first port.
3. In the *Print to* dialogue box, select **PrintServer**.
4. Click on *Settings*. The *Configure Print Server* window will appear. It will look like the screen below.

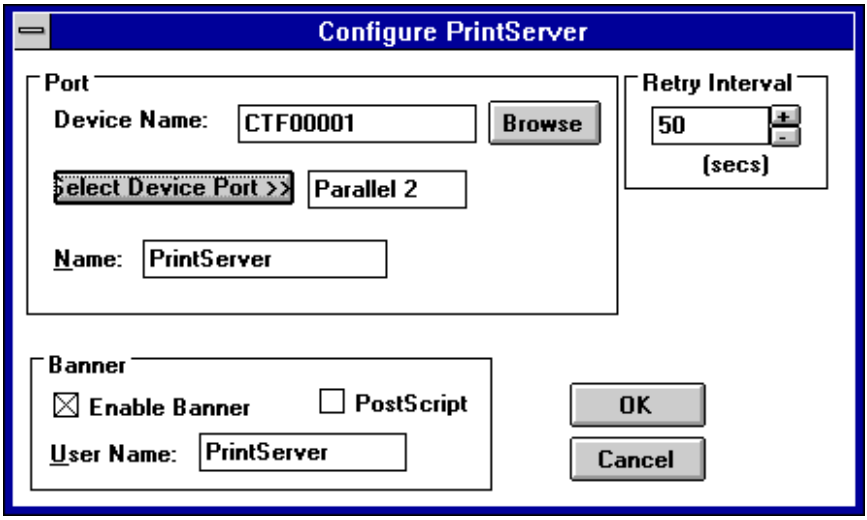


Figure 19 NetBEUI Configuration (NT 3.51 PtP)

5. Enter the configuration information as described below:

Device Name	Click *Browse* and select the correct Print Server. The name should not be changed; it is only visible when configuring the device.
Select Device Port	Select the Print Server port that the printer is connected to (e.g. Parallel port 1).
Port Name	On multi-port devices, each port must have a unique name (8 alpha-numeric characters). The Port Name will be shown in the Printer's properties. Use a name which indicates the port used (e.g. Par_1)
Enable Banner	Select this option to enable a banner page. The Banner page contain the value in the **User Name** field.
PostScript	If using a PostScript Printer and banner page is enabled, enable this option. Not enabling this option will cause errors in the print job.

User Name	The user or work group name to be printed on the banner page.
Retry Interval	Sets how often Windows will poll the Print Server to establish a connection when the printer is busy. Values range from 40-110 seconds.

6. When finished, click *OK* and the follow the on-screen instructions to finish adding a printer as normal.

Configuring Additional Ports

If you are installing a multi-port Print Server device, you must add additional ports and printers. Follow the steps below.

1. Select the newly added printer using *Printer Manager*. Then go to the Printer menu and select *Properties*. The following *Printer Properties* screen will appear.

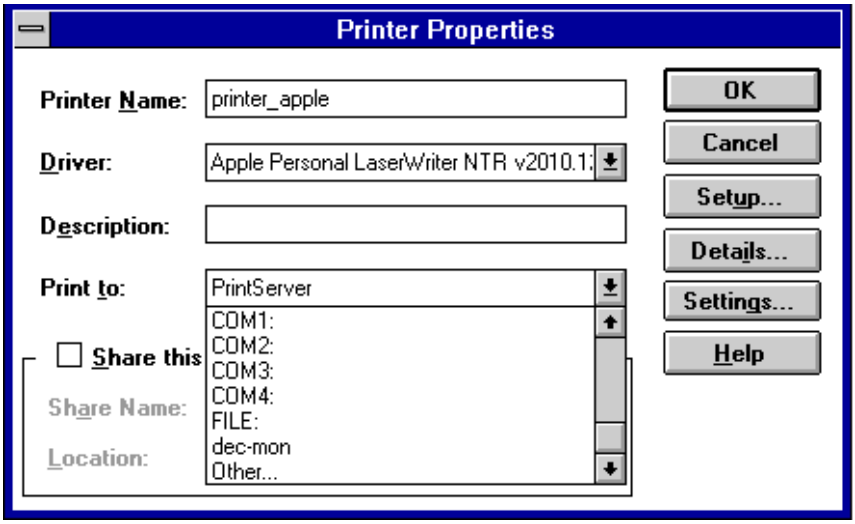


Figure 20 Printer Properties (NT 3.51 PtP)

2. In the Print to dialogue box, select **Other…** and click OK. The *Print Destinations* screen will appear:

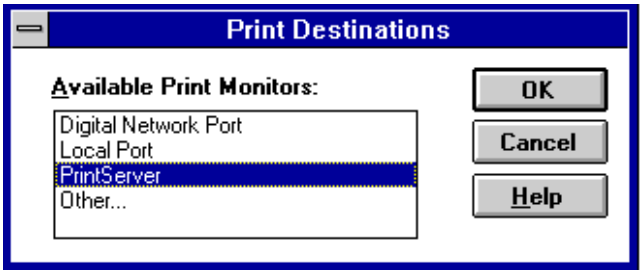


Figure 21 Print Destinations (NT 3.51 PtP)

3. Select **PrintServer** and click **OK**. The *Configure PrintServer* window shown previously will appear.
4. Enter the configuration information as for the first port. Ensure that you select a different Print Server port each time, and assign a unique name to that port (e.g. pserv_2, pserv_3).
5. Repeat steps 2 to 4 until all ports have been added.

6. Install the correct printer for each port. When prompted with the following *Create Printer* screen, ensure that the appropriate **Print to** option is selected for each printer.

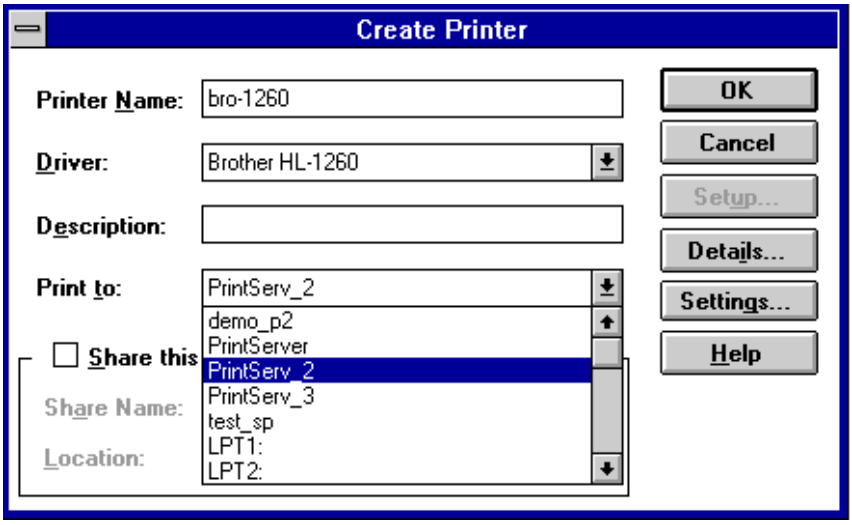


Figure 22 Create Printer (NT 3.51 PtP)

Configuration is now complete. You can now print using the printers attached to the Print Server.

Windows for Workgroups

The Setup program installs the Pserver utility, which is used to configure and manage the Print Server, printer and print jobs. It must be installed on all PCs intending to print using the Print Server. **Before printing, both Pserver and Window Control Panel must be configured.**

Pserver will transfer the print job through the network to the Print Server and then to the printer. The process is as follows:

- A print queue is created for each port during configuration.
- When a user prints, the job is sent to Windows Print Manager.
- When Print Manager is finished spooling the print file, Pserver fetches the print job and stores it in the appropriate queue, using a name generated by Pserver.
- Pserver sends the print job to the correct Print Server printer when the printer is free.

Pserver Main Screen

Pserver must be loaded prior to printing via the Print Server. Therefore, it is recommended that you add Pserver to the Windows Start Up group.

When started, the Pserver Status window will appear, and will list all connected printers, and any print jobs in each printer's queue. An example screen is shown below.

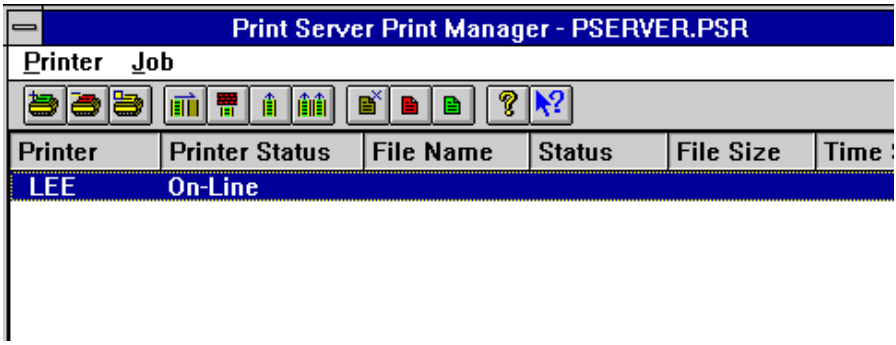


Figure 23 Pserver Main Screen

Pserver Icons and Commands

Add Printer

Create and configure a printer. See the following section Pserver for more details.

Remove Printer

Delete all configuration data for the current printer, including any print job files, and the queue.

Update

Modify the configuration data for the current printer.

Clear Print Queue

Remove ALL print jobs in the current printer's queue.

Pause Print Queue

Pause the printing of all print jobs in the current printer's queue. This should only be used if the printer requires attention.

Resume Print Queue

Resume printing the current printer's queue.

Resume All Print Queues

Execute this command to resume the printing of all paused queues.

Delete Job

Delete the selected print job.

Red)

Pause Job

Pause the selected print job. This makes the printer unavailable for other users.

(Green)

Resume Job

Resume a paused print job.

Pserver Configuration

Before you can print using the printers connected to your Print Server, both Pserver and Windows must be configured. To configure Pserver, follow the instructions below.

1. Start the Psever utility by clicking on its Icon.

2. Select the Printer Menu and choose **Add**.
3. The**Add Printer** screen will appear (see example below)

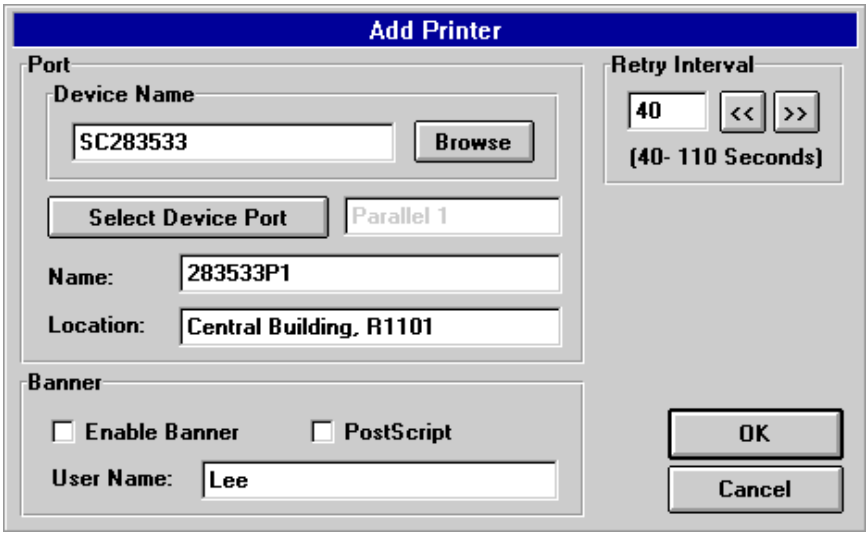


Figure 24 Pserver Add Printer

4. Enter the configuration information as described below.

Device Name	Click *Browse* and select the correct Print Server. The name should not be changed; it is only visible when configuring the device.
Select Device Port	Select the Print Server port that the printer is connected to (e.g. Parallel port 1).
Port Name	On multi-port devices, each port must have a unique name (8 alpha-numeric characters). The Port Name will be shown in the Printer's properties. Use a name which indicates the port used (e.g. Par_1)
Location	Enter the location of the Print Server.
Enable Banner	Select this option to enable a banner page. The Banner page contain the value in the **User Name** field.
PostScript	If using a PostScript Printer and banner page is enabled, enable this option. Not enabling this option will cause errors in the print job.
User Name	The user or work group name to be printed on the banner page.
Retry Interval	Sets how often Windows will poll the Print Server to establish a connection when the printer is busy. Values range from 40-110 seconds.

5. Upon clicking OK, the Pserver utility will automatically create a print queue for the port just added.
6. Repeat steps 2 to 4 for each printer. Ensure that you select a different Print Server port each time, and that each port has a unique name.

Control Panel Configuration

1. Go to Control Panel and invoke the **Printers** icon. The following Printer dialogue box will appear:

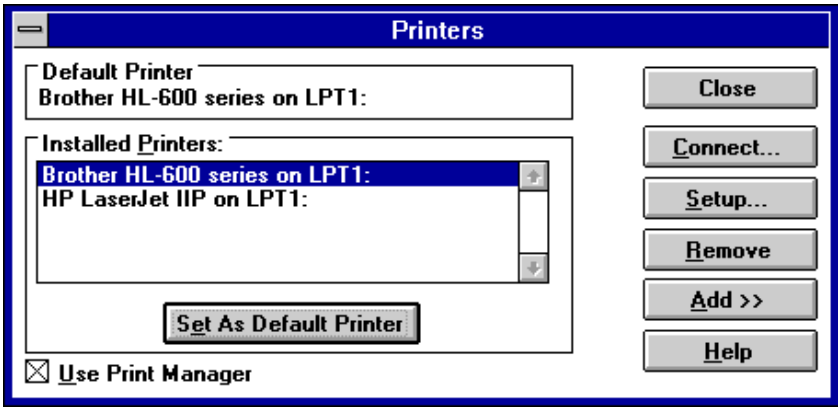


Figure 25 Control Panel - Printers (WfW)

2. Follow the normal process to add each printer that is attached to the Print Server.
3. The printers must be associated with the print queue they will service. Click the **Connect** button and the following *Connect* dialogue box will appear:

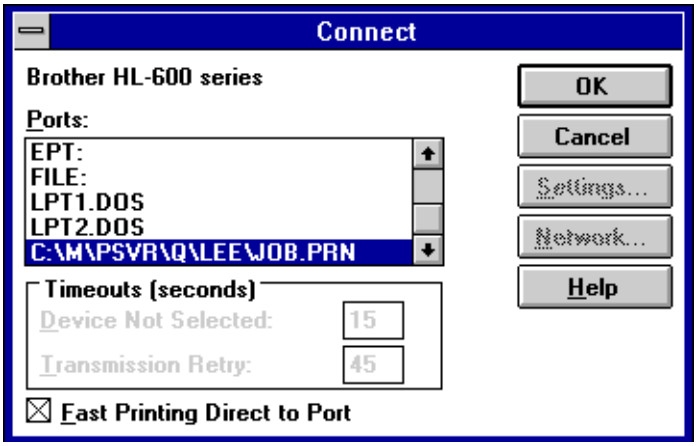


Figure 26 Printer Connect (WfW)

4. From the **Ports** list, select the queue which services the Print Server port to which the printer is connected.
5. Repeat steps 3 & 4 to associate each printer with a queue.
6. Setup is complete. Now whenever you select Windows **Print Setup**, the printer and its queue will appear in the printer list as shown in the example below.

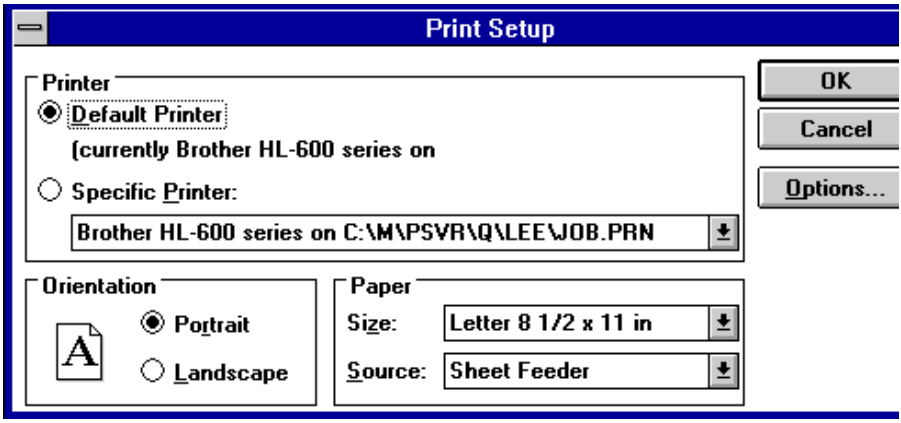


Figure 27 Print Setup (WfW)

Configuration is now complete. You can now print using the printers attached to the Print Server. Please remember the following points:

- Pserver must be loaded
- Use Pserver to manage your print queue, not the Windows *Print Manager*.

Printing

Once configured, printing to the printers attached to the Print Server is the same as printing with the printer attached directly to your local LPT port. Simply select File➔Print. When the *Print* screen appears, select the appropriate printer and options and click *OK*.

Note! *In Windows for Workgroups, use **Pserver** to manage your print jobs, rather than Windows Print Manager.*

Windows SMB

This section describes configuration and operation using Windows SMB (Server Message Block.

Device Configuration

If you are using Windows SMB, no device configuration is required.

Software Installation

Under Windows SMB, no software installation is required.

However, if you wish to manage the Print Server, or monitor the attached printers, you can install one of the program described in *Chapter 8 - Management Tools*.

PC Configuration

Before printing using the Print Server's printer is possible, the printer must be created or added in the Windows environment. The following section explains how this is done.

Windows 95

1. From the command prompt type:

   `NET USE LPT`***n*** `\\SCXXXXXX\P1`

   Where
   n is a number from 1 to 9, indicating the parallel port you wish to redirect to the Print Server.
   SCXXXXXX is the Print Server's default name found on the bottom of the unit.
   P1 is the port on the Print Server to which the printer is attached.

   This command will redirect print jobs from the parallel port to the Print Server port.

   Using only port 1 with the SMB protocol is strongly recommended.

2. Return to Windows. Select the "My Computer" icon then select "Printer".
3. Select "Add Printer". The "Add Printer Wizard" will guide you through the installation. Follow the Wizard's instructions. When asked, "How is the printer attached to your computer?", be sure to select "Local Printer".

   Do not select "Network Printer". Selecting "Network Printer" will disable printing.

4. When prompted for the port to use for this printer, select the parallel port which is being redirected to the Print Server. (The port used in the *Net Use* command.)
5. When the installation is complete, the Wizard offers you a test print out. Choose "Yes" then click on "Finish".

6. Add the following into your AUTOEXC.BAT file. The AUTOEXEC.BAT is in C:\ (root directory of drive C:) and can be edited with Notepad. If AUTOEXEC.BAT does not exist, create it with Notepad.

   ```
   NET USE LPTn \\SCXXXXXX\P1
   ```

   This is the same command used in step 1. By placing it in AUTOEXEC.BAT, it will be executed every time you start your computer.

Configuration is now complete. You will be able to print to the printer attached to the Print Server by selecting the printer you just installed.

Windows NT

To add a printer using SMB under Windows NT.

1. From the command prompt type:

   ```
   NET USE LPTn \\SCXXXXXX\P1
   ```

   Where
   n is a number from 1 to 9, indicating the parallel port you wish to redirect to the Print Server.
   SCXXXXXX is the Print Server's default name found on the bottom of the unit.
   P1 is the port on the Print Server to which the printer is attached.

   This command will redirect print jobs from the parallel port to the Print Server port.

   Using only port 1 with the SMB protocol is strongly recommended.

2. Return to Windows and open "Print Manager".

3. Select the "Printer" menu and choose "Create Printer".

4. Type a name and a description in the "Printer Name" and "Description" fields.

5. Select your printer type, and install the correct driver for the printer attached to the Print Server.

6. From the "Print to" list, select the print server entered in step 1. For example, select \\SC123456\P1.

7. Close Print Manger.

Configuration is now complete. You will be able to print to the printer attached to the Print Server by selecting the printer you just installed.

Windows for Workgroups

1. From the command prompt type:

   ```
   NET USE LPTn \\SCXXXXXX\P1
   ```

   Where
   n is a number from 1 to 3, indicating the parallel port you wish to redirect to the Print Server.
   SCXXXXXX is the Print Server's default name found on the bottom of the unit.
   P1 is the port on the Print Server to which the printer is attached.

This command will redirect print jobs from the parallel port to the Print Server port.

Using only port 1 with the SMB protocol is strongly recommended.

2. Return to Windows and double-click the *Printer* icon in the *Control Panel*.
3. Select the printer driver for the printer attached to the Print Server from the list of *Installed Printers* (or click **Add>>** to install a new driver).
4. Click "Set As Default Printer".
5. Click "Connect…" to open the Connect dialog box.
6. Click "Network…
7. From the *Device Name* list, select the local port (LPT1 - LPT3) which you redirected to the Print Server in step 1.
8. In the *Path* field, select the print server that was entered in step 1. For example, select \\SC123456\P1.
9. Check the **Reconnect at Startup** box, then click **OK** to close the Connect Network Printer dialog box.
10. Click "OK" to close the Connect dialog box and "Close" to close the Printer Dialog.

Configuration is now complete. You will be able to print to the printer attached to the Print Server by selecting the printer you just installed.

Printing

Once configured, printing to the printers attached to the Print Server is the same as printing with the printer attached directly to your local LPT port. Simply select File➔Print. When the *Print* screen appears, select the appropriate printer and options and click *OK*.

Chapter 8

Management Tools

This chapter describes the general-purpose management tools provided with your Print Server.

Your Print Server is shipped with a variety of software programs to assist you to configure and manage the device and printers attached to it. Software which is specific to a particular platform is discussed in the relevant chapter. The general-purpose management programs explained in this chapter are as follows.

Program	LAN Protocol	Operating System	SNMP	I.P.	C.P.
Wpconfig	AppleTalk, Novell, TCP/IP, NetBEUI	Win 3.1	No	No	No
BiAdmin	AppleTalk, Novell, TCP/IP, NetBEUI	Win 95, Win NT	Yes	Yes	Yes
WebAdmin	AppleTalk, Novell, TCP/IP, NetBEUI	Win NT Server + Browser	Yes	No	Yes

I.P. - Internet Printing Configuration.

C.P. - Configure Printer

Please note the following restrictions:

- Internet Printing and SNMP are supported only on model EP3003 CheetahPrint Power-3003.
- WebAdmin is supported only with EP3003 CheetahPrint Power-3003.

BiAdmin

This section covers the installation and operation of the BiAdmin management program. This program will run only on Windows 95 or Windows NT.

Installation

1. Insert the supplied CD-ROM into your drive.
2. Run the Setup program in the Utility\Biadmin directory.
3. Follow the on-screen instructions to complete the installation process.

Main Screen

When run, Bi-Admin icon, the program searches the network for all active Print Servers, then lists them on screen. See the example screen below.

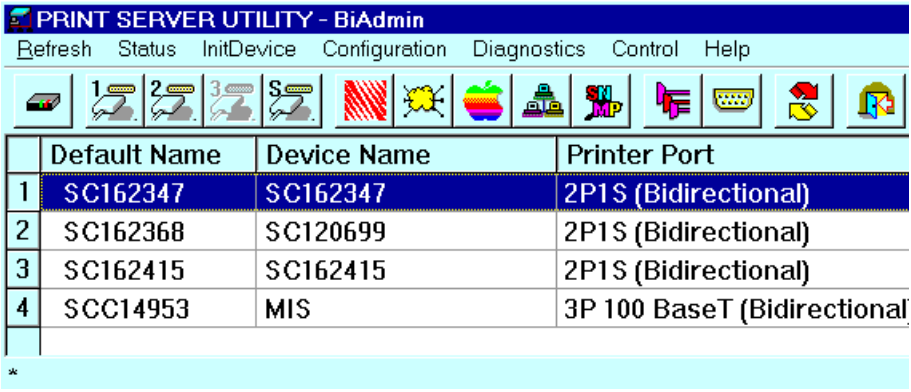


Figure 28 BiAdmin Main Screen

Icons

The icons provide status information as well as access to the selected Print Server settings. If an icon is grayed out, that option is unavailable. For example, unsupported protocols are grayed out.

Device Information

Menu equivalent: ***Status - Device Information***

This option allows you to view all of the device settings in a scrollable list. The data can not be changed.

Printer Status

Menu equivalent: ***Status - Port Status***

There are 4 icons - one for each parallel port, and one for the serial port. Non-existent ports are grayed out. Selecting an icon will result in a screen like the following example.

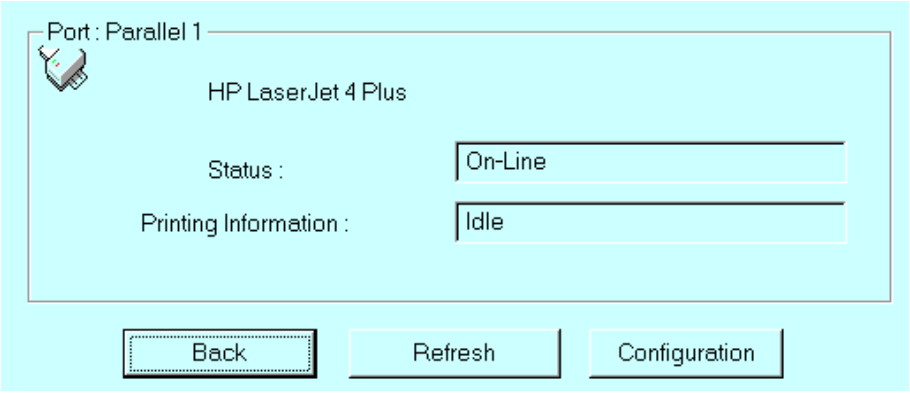


Figure 29 Printer Status

If the printer is Bi-directional, and the printer is not busy, the *Configuration* button will be available, allowing you to change the configuration of the attached printer. See *Printer Configuration* following for more details.

NetWare

Menu equivalent: ***Configuration - NetWare***

Select the Operation Mode (Print Server or Remote Printer) and click *Print Server Configuration*. Depending on the selection, one of the following screens will appear.

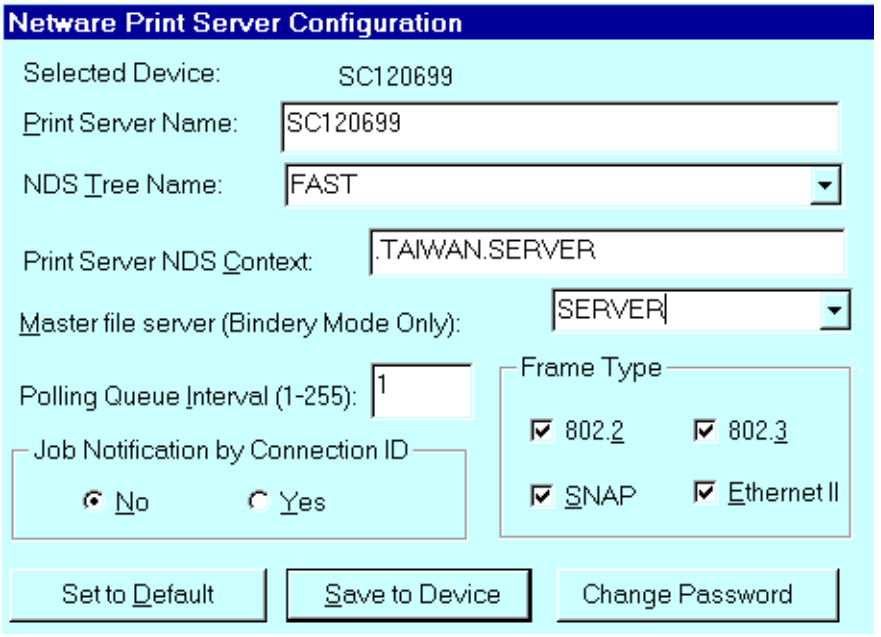


Figure 30 NetWare Print Server Configuration

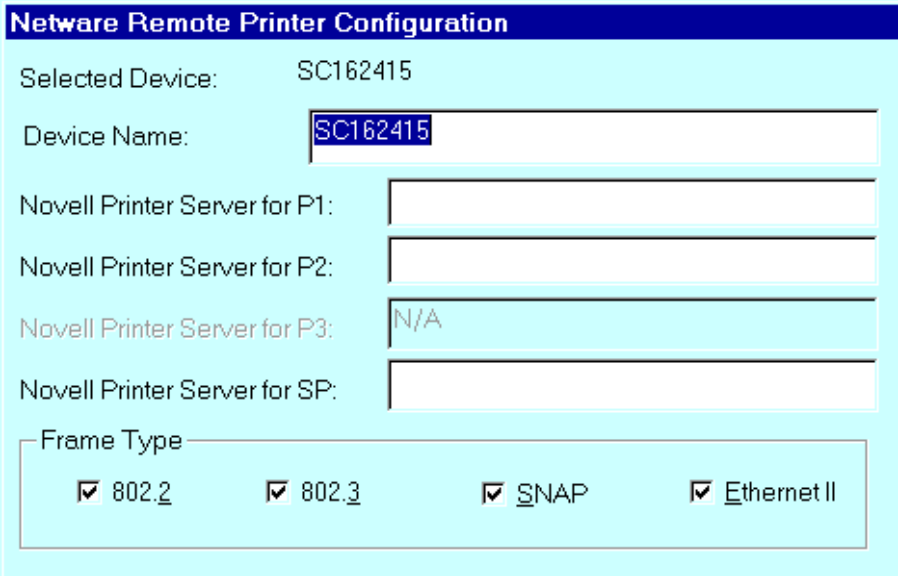


Figure 31 NetWare Remote Printer Configuration

See *NetWare - Specific Settings* on page 22 for details.

TCP/IP Configuration

Menu equivalent: ***Configuration - TCP/IP***

Selecting this icon will cause the following screen to appear.

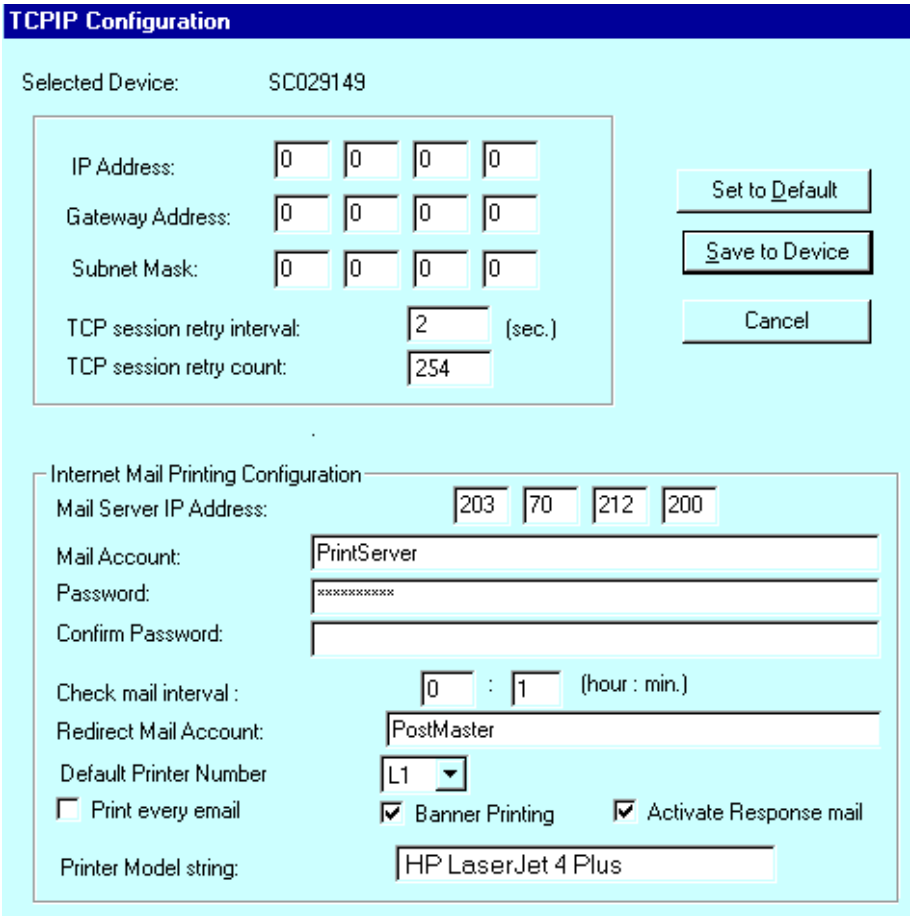


Figure 32 TCP/IP Configuration

See *IP Address Configuration* on page 25 for details of the IP Addresses (top half of the screen).

See *Internet Mail Printing Configuration* on page 43 for details of Internet Mail Printing Configuration (bottom half of the screen). Internet Printing is supported only on model EP3003 CheetahPrint Power-3003.

AppleTalk Configuration

Menu equivalent: ***Configuration - AppleTalk***

Selecting this icon will cause the following screen to appear. See *AppleTalk Settings* on page 8 for details of these configuration settings.

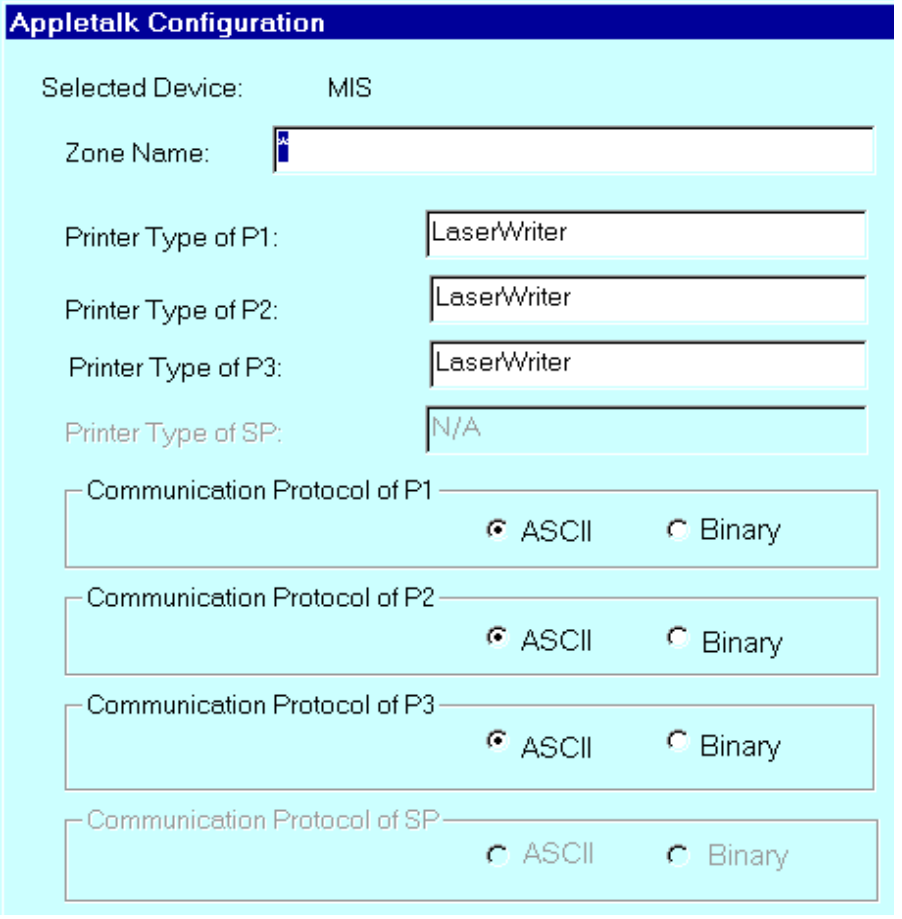


Figure 33 AppleTalk Configuration

NetBEUI Configuration

Menu equivalent: ***Configuration - NetBEUI***

Selecting this icon leads to the following screen.

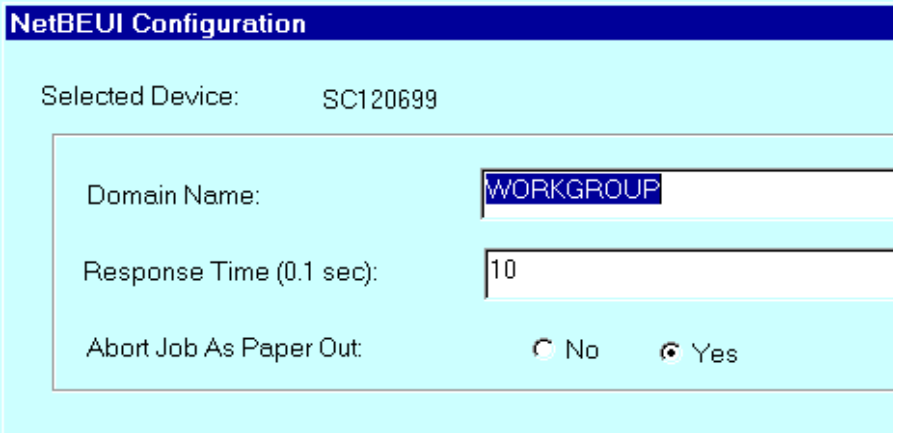


Figure 34 NetBEUI Configuration

NetBEUI Settings

Domain name

Enter the designated work group to be serviced by the Print Server. Using only UPPER CASE is recommended.

Response Time

Sets how fast jobs are sent to the printer. The default value of zero (0) delay should be increased only if your printer cannot cope with no delay.

Abort Job As Paper Out

YES will terminate the current print job when a printing error is encountered. NO (default) will try to continue but may cause print errors. If errors occur, try setting this value to YES.

Note! *Normally, there should be no need to adjust these settings.*

SNMP Configuration

Menu equivalent: ***Configuration - SNMP***

SNMP is supported only on model EP3003 CheetahPrint Power-3003.

See *Preparing the Print Server for SNMP* on page 47 for details of these configuration settings. After clicking this icon, the top section of the screen will look like the following.

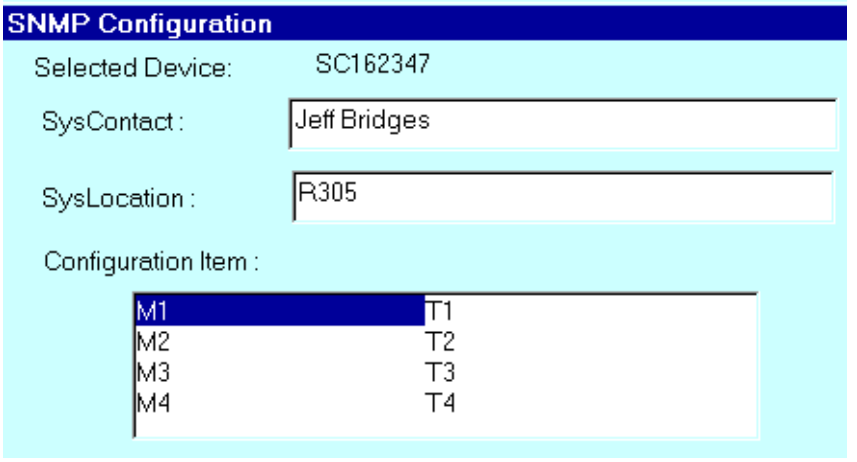


Figure 35 SNMP Configuration

If a Management Station (M1..M4) is selected, the bottom part of the screen will look like the following example.

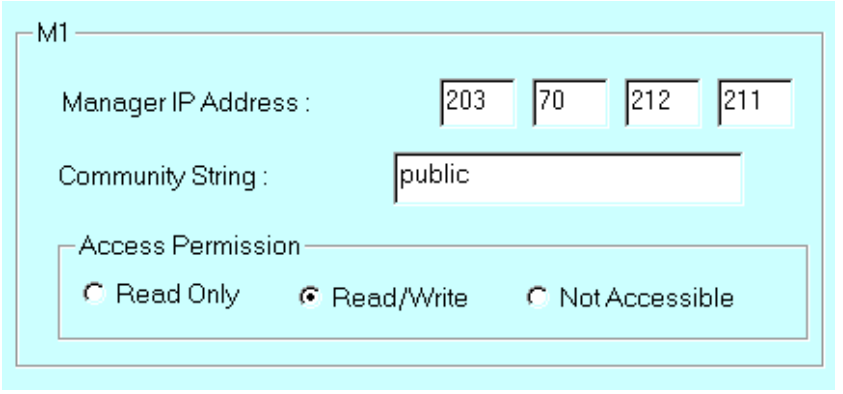


Figure 36 SNMP Management Station

If a Trap (T1..T4) is selected, the bottom part of the screen will change. The following example is for T1.

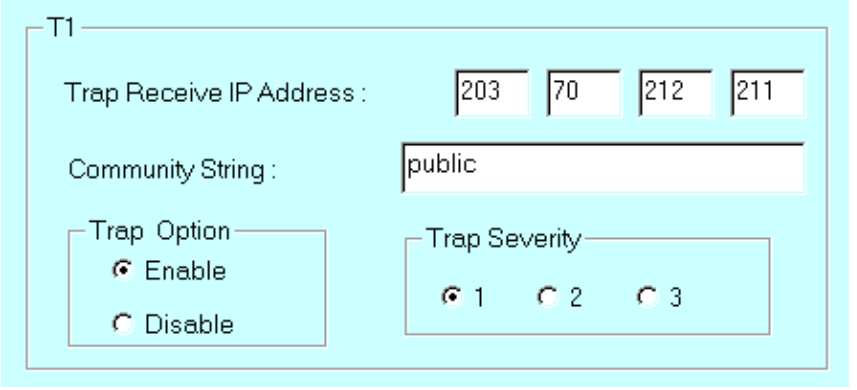


Figure 37 SNMP Trap Configuration

Logical Port Configuration

Menu equivalent: ***Configuration - Logical Port***

Logical printers can be used in the NetWare environment (see page 24) and under UNIX (see page 27). This option allows you to configure each logical printer.

Serial Port Configuration

Menu equivalent: ***Configuration - Serial Port***

Check your serial printer to see what settings should be used. Selecting this option will show the following screen.

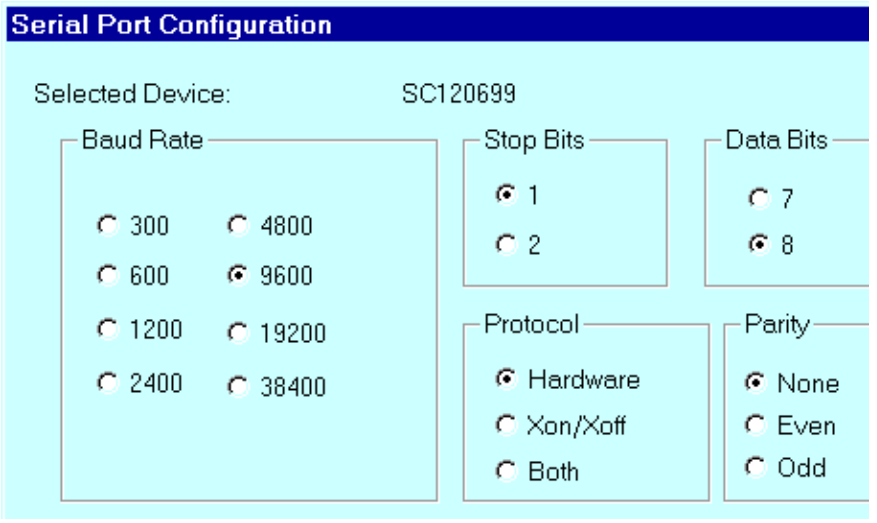


Figure 38 Serial Port Configuration

Refresh

Menu Equivalent: ***None***

Select this icon to update the Print Server device listing after changing the name or IP Address.

Exit

Menu Equivalent: ***Help - Exit***

Exit the Bi-Admin program. Remember to save any changes to the device before you exit.

Set to Default

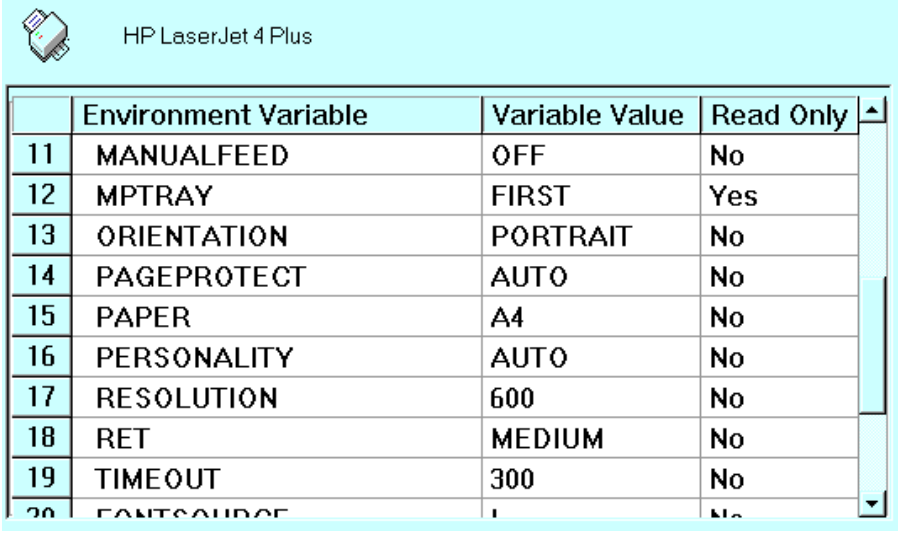
This button appears on many screens. Clicking it replaces the on-screen values with the default settings. They are NOT saved until you click *Save to Device*. To set ALL device values to the default, use the menu option *InitDevice - Restore Factory Default*.

Save to Device

Clicking this will write any changed configuration information to the device, updating the Print Server's NVRAM configuration file. You should then use the *InitDevice* menu option to *Reset* the device.

Printer Configuration

Clicking the *Configuration* button in the *Printer Status* window will reveal a window like the following example. This button will be grayed out if the printer does not support this option, or if the printer is busy printing.



	Environment Variable	Variable Value	Read Only
11	MANUALFEED	OFF	No
12	MPTRAY	FIRST	Yes
13	ORIENTATION	PORTRAIT	No
14	PAGEPROTECT	AUTO	No
15	PAPER	A4	No
16	PERSONALITY	AUTO	No
17	RESOLUTION	600	No
18	RET	MEDIUM	No
19	TIMEOUT	300	No
20	FONTSOURCE	I	No

Figure 39 Printer Configuration

Environment Variable

This list of printer configuration variables will vary from printer to printer.

Variable Value

Displays the current setting. To change the Variable Value (if *Read Only* is NO) double click the line you wish to change, then enter or select a new value.

Read Only

Indicates whether or not the environment variable is adjustable.

Menu Options

InitDevice Menu

Reset Device

This will cause the device to reboot. This should be done after making any configuration changes, or if the device stops responding after some problem.

Restore Factory Default

This will restore ALL device values to their factory defaults. To restore only the current screen, use the *Set to Default* button on the screen.

Set IP Address

Use this to set a Device IP Address, Gateway IP Address, and Network Mask for a TCP/IP network. You need to enter the default device name. See *IP Address Configuration* on page 25 for configuration details. Save the data to the device, reset it, and refresh the listing.

Attach Remote

This is used to connect to a Print Server device on another LAN segment. Enter the IP address of the remote device. The Gateway (router) address must be set correctly.

Connected Protocol

This option allows you to designate which LAN protocol will be used for communication between the selected device and this application. You should select ONE protocol only.

Configuration Menu

System

Use this option to change the device name, and to set the LAN protocol(s) supported by the Print Server. The protocol used by your LAN, as well as the *Connected Protocol* described above, should be enabled. To improve performance, any other protocols should be disabled.

Diagnostics menu

Print Test Page

Use this option to print a test sheet from the selected Print Server port. The test print out will include status information.

Control Menu

Abort Mail Print Job

This option allows you to cancel a print job which has been received though the Internet Printing feature, and is currently printing. This can be used to terminate a print job which is not printing correctly.

WebAdmin

WebAdmin is supported only on model EP3003 CheetahPrint Power-3003.

WebAdmin must be installed on a supported WEB server, and a compatible WEB browser used run the WebAdmin program.

System Requirements

Print Server	EP3003 CheetahPrint Power-3003.
Server Operating Systems	Microsoft Windows NT 3.51 and 4.0. (Workstation and Advanced Server) Intel or Intel-Compatible processors.
Web Servers	Microsoft Internet Information Server (IIS) 1.0 and 2.0.
Internet Browsers	Microsoft Internet Explorer 2.0, 3.0 and above. Netscape Navigator 2.0, 3.0 & above.

Server Installation

1. Run the SETUP program in the Utility\Webadmin directory on the CD-ROM.
2. Follow the on-screen instructions.
3. By default, the installation program files will be installed to the following CGI directory:

   ```
   C:\Program Files\PrintServer\WebAdmin
   ```

4. The alias *webadmn* for the CGI directory will be created and added to the system registry. If you wish to change the alias of the CGI directory, the procedure is as follows:
   - Choose: Start|Programs|MicroSoft Internet Server(Common)|Internet Service Manager
   - Click the computer which has the service: *WWW* to display service content.
   - Click the *Directory* option to display directory content.
   - Select the *Alias* field, and type the name you want.
   - Check the access rights and ensure the directory is both readable and executable, then click *OK*.
5. Restart the PC to complete the setup.

Running WebAdmin

- Start your WEB browser.
- In the *Address* box, type either the IP address or the domain name of the WebAdmin program, followed by the string:

  ```
  ?application/x-msdownload
  ```

  Example:

  http://202.70.111.20/webadmin/webadmin.exe?application/x-msdownload

You should then see a screen like the following example.

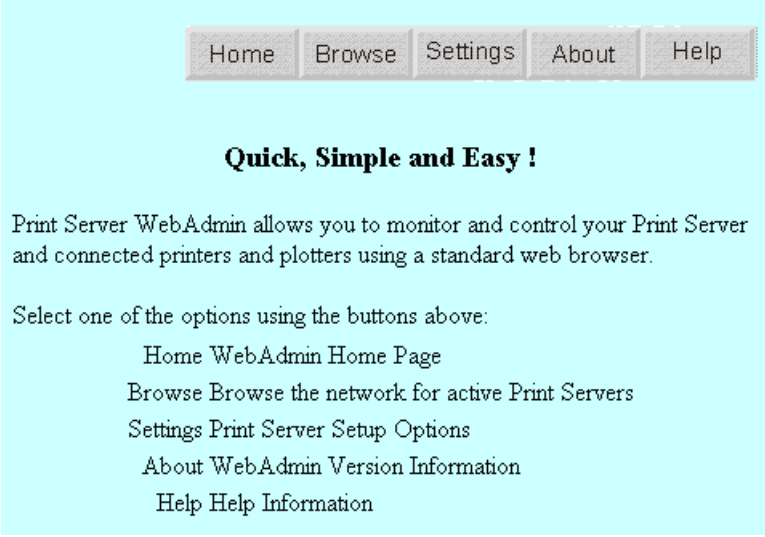


Figure 40 WebAdmin Home Screen

Home Button

Clicking on the *Home* button from any other screen will return you the *Home* screen shown above.

Browse Button

The *Browse* button will generate a list of Print Servers as shown in the following example.

Default Name	Device Name	Printer Port
SC162347	SC162347	2P1S (Bidirectional)
SC162368	SC120699	2P1S (Bidirectional)
SCC14953	MIS	3P 100 BaseT (Bidirectional)

Figure 41 WebAdmin Listing

To configure the selected Print Server, click on it. This will generate a screen like the following.

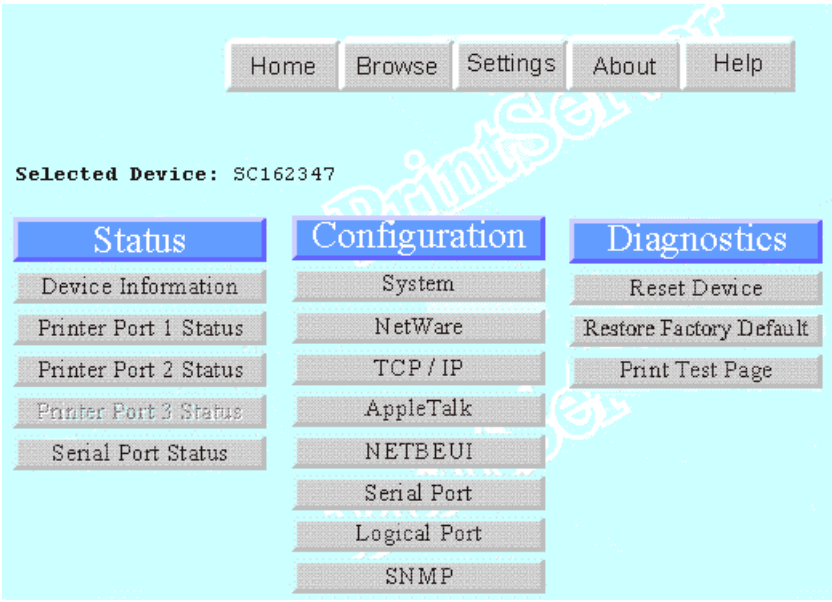


Figure 42 WebAdmin Selected Device

These options allows you to check the status of connected printers or Print Servers.

Device Information

A list of the current device settings will be displayed.

Printer Port Status / Serial Port Status

Click the button for any port to check the status of the attached printer, as shown by the sample screen below.

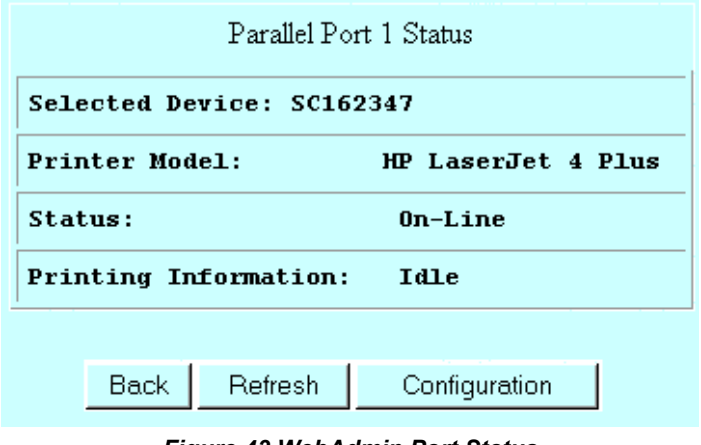


Figure 43 WebAdmin Port Status

If the printer is bi-directional and is not busy, it can be configured by clicking the *Configuration* button. See *Printer Configuration* on page 80 for details.

Configuration

These options allow you to configure the current Print Server.

System

Allows you to change the device name, and to set the LAN protocol(s) used by the current device. Only the *Connected Protocol* referred to on page 86, and your LAN protocol, should be enabled.

By default, all protocols are enabled. This allows operation in any environment, but degrades performance.

Netware

Configure NetWare with this icon. See *NetWare - Specific Settings* on page 22 for configuration details.

TCP/IP

Use *Settings -IP Addresses* to initially assign an IP address, and this button for any subsequent changes. See *IP Address Configuration* on page 25 for details.

AppleTalk

See *AppleTalk Settings* on page 8 for details of these configuration settings.

NetBEUI

Allows NetBEUI (Windows SMB) changes to be made. For details, see *NetBEUI Settings* on page 77.

Serial Port

Configure the serial port if one is fitted. Check your serial printer to see what settings should be used.

Logical Port

Logical ports (printers) can be used under NetWare (see page 24) or Unix (see page 27).

SNMP

See *Preparing the Print Server for SNMP* on page 47 for details of the settings available from this button.

Diagnostics

This column of buttons allows you to perform tasks which are seldom required.

Reset Device

Use this option to reset the Print Server. This is equivalent to a power off and on. Resetting should be done after changing the configuration, or if the device ceases responding after a LAN or printer problem.

Restore Factory Defaults

Select this option to return all parameters to their factory default settings.

Print Test Page

Use this option to print a test sheet from the selected Print Server port. The test page will contain status information.

Settings Button

The *Settings* button will reveal the *Setup Options* screen:

Figure 44 WebAdmin Setup Options Screen

IP Addresses

See *IP Address Configuration* on page 25 for details of the IP Addresses. You need to know the device's default name.

Note! *With the TCP/IP protocol, you must set an IP address before anything else.*

Attach Remote

Connect to a Print Server on another network segment.

Connected Protocol

Change the protocol used for communication between the program and the current device.

WPCONFIG

WPCONFIG can be run from any Windows PC that has IPX and SPX protocols loaded. For Windows 95 or NT, the BiAdmin Program is recommended, because WPCONFIG does NOT support the following features.

- Printer Configuration
- SNMP Configuration
- Internet Printing

Installation

1. Run the SETUP program in the Utility\Wpconfig directory on the CD-ROM.
2. Follow the on-screen instructions.

The Setup program will automatically create a WPCONFIG group containing two icons: WPCONFIG and Readme.

Using WPCONFIG

When run, WPCONFIG searches the network for all active Print Servers, listing them as shown below

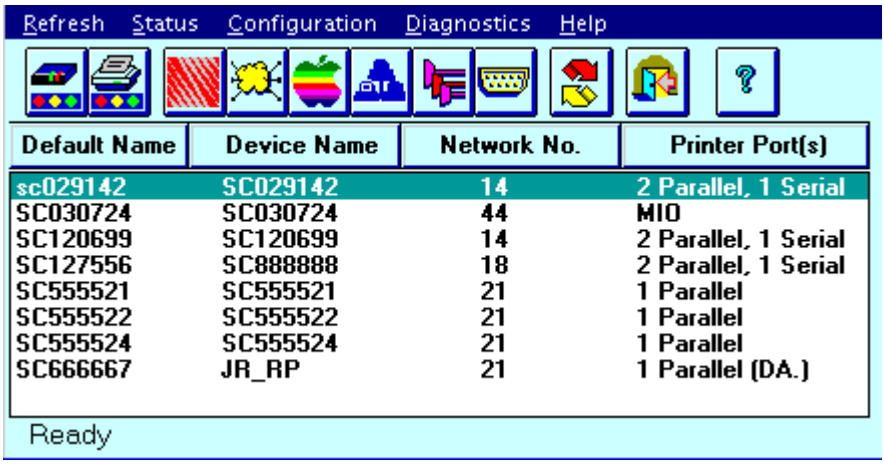


Figure 45 WPCONFIG Main Screen

Icons

The icons provide status information as well as access to the selected Print Server settings. If an icon is grayed out, that option is unavailable. For example, the serial port is grayed out on units without a serial port.

Device Information

This presents configuration information about the Print Server in a scrollable, read-only list..

Printer Port Status

Shows current printer status (On-line, printing, off-line) for all ports..

NetWare

Configure NetWare with this icon. See *NetWare - Specific Settings* on page 22 for details.

TCP/IP

Initial configuration for TCP/IP must be done with BiAdmin or SETBOX; later changes can be made here. See *IP Address Configuration* on page 25 for details.

AppleTalk

See *AppleTalk Settings* on page 8 for details of these configuration settings.

NetBEUI

NetBEUI (Windows SMB) changes can be made using this icon. Normally, there is no need to make any changes. See *NetBEUI Settings* on page 77 for details.

Logical Printers

Logical printers can be used under NetWare (see 24) or Unix (see page 27).

Serial Port

Configure the serial port if one is fitted. Check your serial printer to see what settings should be used.

Refresh

Update the Print Server listing. This is required after changing the device name or IP Address.

Exit

Exit WPCONFIG.

Help

Show WPCONFIG version information.

Set to Default Button

This button is on most configuration screens. This will restore current screen values to their factory defaults.

Save to Device Button

This button is on most configuration screens. This will save any changes to the device.

Menu Options

Configuration Menu

System

Allows you to change the device name, and to set the LAN protocol(s) used by the current device. Only the IPX and your LAN protocol should be enabled.

By default, all protocols are enabled. This allows operation in any environment, but degrades performance.

Reset Device

This should be done after making any configuration changes, or if the device stops responding.

Restore Factory Defaults

This restores ALL values to the factory defaults. To restore only the current screen, use the *Set to Default* button on the screen.

Diagnostics menu

Print Test Page

Use this option to print a test sheet from the selected Print Server port. The test print out will include status information.

Chapter 9

Troubleshooting

9

If your Print Server is not working correctly, follow the advice in this chapter.

If you encounter printing difficulties, please refer to the *Hardware* section first then go to the *Printing* section. If, after following the advice in this chapter, the Print Server still does not function properly, please contact your dealer for further advice.

Hardware

Problem No. 1	**All the Print Server's LEDs are off.**
Solution No. 1	Check the power supply or power connection.
Problem No. 2	**Print Server's status light continuously stays lit.**
Solution No. 2	Reset Print Server by unplugging the power supply and plugging it back in.
Problem No. 3	**Print Server status light and power light stays on continuously and do not turn off.**
Solution No. 3	Reset Print Server by unplugging the power supply or by pushing the reset push button.
Problem No. 4	**I am using DHCP, and getting an IP Address conflict involving the Print Server.**
Solution No. 4	If the Print Server is left on, but the DHCP server is turned off, then the Print Server will retain its IP Address without the DHCP Server being aware of it. Simply reset the Print Server so it will obtain a new IP Address. This problem would also arise if you assigned a static IP Address which is within the range used by the DHCP server. If so, use another address which is NOT within the range used by the DHCP server.
Problem No. 5	**I am using WPCONFIG on Windows 95, and having problems configuring the Print Server.**
Solution No. 5	WPCONFIG is designed for Windows 3.1 only. For Windows 95/NT, you should use BiAdmin.

Printing - General

Problem No. 1	**When using 10BaseT cabling, the Print Server unit does not work.**
Solution No. 2	Check the Hub's link LED for the port to which the Print Server is connected. If it is off, there is a problem in the network cable. If using 10BaseT or 100BaseT, check the LED next to the connector. It should be on if the network connection is OK.
Problem No. 2	**A printing device connected to the a Print Server port cannot print or prints garbage.**
Solution No. 2	Check the following: • Cable connection between Print Server and printer. • Serial port configuration, if a serial device. • Printer driver in the application program or Windows matches the printer.
Problem No. 3	**The *Configuration* button on the *Printer Status* screen in BiAdmin is grayed out, even though my printer in bi-directional.**
Solution No. 3	The button is unavailable if the printer is busy. You must wait until the printer is idle.

Printing - AppleTalk

Problem No. 1	**Why do I get an incorrect printout?**
Solution No. 1	• You may have chosen Binary encoding to print the file. Try to use ASCII encoding. • Some of the fonts in your print file may not be supported by the printer. Try selecting LaserWriter 7 instead of LaserWriter 8.
Problem No. 2	**Can't find the Print Server's name in the Chooser.**
Solution No. 2	Try the following: 1. Make sure that AppleTalk is on (the button next to Active is highlighted in the Chooser). 2. Make sure the printer has been on and in the READY state for a few minutes. 3. Make sure the printer has not been renamed since its last appearance in the Chooser. 4. If the printer resides on a network with multiple zones, make sure the correct zone is selected from the AppleTalk Zones box in the Chooser.
Problem No. 3	**My document didn't print to the right printer.**
Solution No. 3	Check the following: • Another Print Server with the same name may have received your print job. Use the PSTOOL to reconfigure your Print Server name and ensure all Print Servers have unique names. • Make sure your application output encode is set to ASCII. If not, change it to ASCII.
Problem No. 4	**My file doesn't print with the correct fonts.**
Solution No. 4	Try changing your printer driver to LaserWriter 7.
Problem No. 5	**My EPS file doesn't print with the correct fonts.**
Solution No. 5	This problem occurs in some programs. Try downloading the fonts contained in the EPS file before printing the saved EPS file.
Problem No. 6	**I can't select the *Remaining from*: item in the print dialog box.**
Solution No. 6	If you have selected the Layout value, 2 Up, or 4 Up, you cannot access the Remaining from: item. Choose other selections.
Problem No. 7	**A cover page prints either on the first or the last page of the document.**
Solution No. 7	Select one of these solutions: • Turn the cover page feature off. • Insert extra page breaks in your document to avoid the cover page

	printing on the first or last page of your document. • Install the Apple LaserWriter 7 driver. You are having trouble printing with the Apple LaserWriter 8 driver.
Problem No. 8	**Why do I have trouble printing with the LaserWriter 8?**
Solution No. 8	Your application software may not be compatible with the LaserWriter 8 driver or your system may not meet the requirements of the LaserWriter 8 driver. Use the Apple LaserWriter 7 driver instead.
Problem No. 9	**How come the colors on my printed output do not match the colors on my computer screen?**
Solution No. 9	When the printer receives a color file, it tries to match the printed output color to the color on the computer screen. Sometimes the printer cannot match up the colors as closely as wanted. To alleviate this problem, perform the following steps: 1. Choose Calibrated Color/Grayscale in the *Print* pop-up menu in the *Print Options* dialog box. The printer will make adjustments to match the colors. 2. Check your monitor to make sure all settings (for example, brightness) are adjusted correctly.
Problem No. 10	**The blue color I chose on my computer screen is printing out purple.**
Solution No. 10	Choose Calibrated Color/Grayscale in the Print pop-up menu in the Print Options dialog box.
Problem No. 11	**When I send a print job, I get a PostScript Command error or no print out.**
Solution No. 11	Check the communication protocols. **The computer,** Print Server **and printer must all be configured to use the same communication protocol** (either Binary or ASCII). To configure your system: 1. Choose which protocol you are going to use. You should check your printer; it may not give you a choice. 2. Set your printer to the correct protocol 3. Use the computer's *print* submenu to configure your computer to use the protocol (ASCII or binary) you have chosen. 4. Configure the Print Server as described on page 8.

Using the LaserWriter 8.1.1 Driver

Some application programs have incompatibilities with this driver. The following list describes known problems. If you experience problems, contact the publisher of the program. A newer version of the program may be available.

Aldus Freehand 3.11

- You cannot print using Layout options in the *Print* dialog box. If you select a layout option, the document does not print and no error message appears.
- EPS files created from within Freehand cannot be used in other programs.
- Selecting the *Unlimited Downloadable Fonts* option in the *Page Setup* option dialog box results in a PostScript error.

Aldus PageMaker 4.2a

- You cannot scale EPS images in documents printed using the Layout option in the Page Setup dialog box.

Aldus Persuasion 2.1.2

- When you print a document that contains gradient fill patterns, the document is printed with solid patterns instead of gradients.
- Documents that contain EPS graphics may not print correctly if you select 2-Up or 4-Up printing.

Canvas 3.0.6

- Printing with substituted fonts may result in incorrect line layout.

Informed Manager 1.3.5

- Shaded headings in a document may not print correctly. Some documents will print with extra pages.

MacDraft 2.1

- When you print using the Cut Marks option, a PostScript error results.

Microsoft PowerPoint

- In PowerPoint version 2.01f, you cannot import an EPS file created with the Apple LaserWriter 8.1.1 driver that has been saved without preview information.
- When importing EPS files, you may need to increase the memory allocated to the application.

Microsoft Works 3.0

- Printing documents that have rotated objects with rounded corners results in a PostScript error.

More 3.1

- When creating EPS files with the Apple LaserWriter 8.1.1 driver, be sure you have enough disk space to hold the file.

QuarkXPress 3.11

- You cannot print EPS files that contain certain TrueType fonts.
- Using Calibrated Color results in a PostScript error.

Studio/8 and Studio/32

- For EPS files and the Apple LaserWriter 8.1.1 driver, you must select the QuickDraw Printer option.

Printing - NetWare

Problem No. 1	**My Print Server prints garbage.**
Solution No. 1	Follow the following steps to identify the problem: 1. Print a diagnostic file using PSCONFIG program. (a) Run PSCONFIG and select your Print Server from the list. Then select *Print Diagnostic Report* (b) Select each port in turn and print a diagnostic report. (c) Check to see if the diagnostic report printed OK. If the diagnostic report printed OK, the problem may be caused by incorrect system configuration. Go to Step 2. If the diagnostic report printout is not OK, check your printer. If your printer is OK, call your dealer. 2. Print a test text file and a test graphic file. If the text file prints correctly but the graphic file prints garbage, then specify /NT (no tabs) option for NPRINT or CAPTURE commands and print again. If both print incorrectly, go to step 3. 3. Temporarily disable the Print Server servicing the print queue following the step-by-step instructions below: **NetWare 2.x and 3.x** (a) Run PCONSOLE, Select Print Queue Information, select the print queue that the Print Server services, select Current Queue Status. (b) Set Servers can service entries in queue to NO. (c) Press Esc and select Print Queue ID. Record its queue ID. (d) Send your test files to the print queue using normal print commands. **NetWare 4.x bindery and NDS modes** (a) Run PCONSOLE, select Print Queues, select the print queue that your Print Server services, select Status. (b) Set Allow service by current print servers to NO. (c) Press Esc and select Information, and record its queue ID. (d) Send your test files to the print queue using normal print commands. 4. Re-route network printing to local printing. (a) Disconnect the printer attached to your Print Server and connect it to LPT1 of your PC. (b) Change to the drive and then the directory on the file server that contains the print queue. The directory will have the name of the queue ID (e.g. \queues\Q_ID for NDS mode or system\Q_ID for Bindery mode). 5. The test files you printed in step 3 should be in the queue directory. Print these files to the local printer using the COPY command with the /b option. Example `copy /b test.txt LPT1` 6. Compare the printouts from the PC and the Print Server. If the printouts are the same, then the problem is NOT the Print

	Server. The problem might be that an incorrect printer driver was chosen or the timeout setting in the CAPTURE command is too short. If the printouts are NOT the same, there may be a problem with the Print Server. Call your dealer. 7. Re-enable queue service. (a) Disconnect the printer attached to LPT1 of your PC and connect it to your Print Server. (b) For NetWare 2.x or 3.x, run PCONSOLE and Select Print Queue Information. Then select the print queue and select Current Queue Status. Set Servers can service entries in queue to YES For NetWare 4.x bindery and NDS modes, run PCONSOLE and select Print Queues. Then select the print queue and select Status. Set Allow service by current print servers to YES.
Problem No. 2	**My Print Server does not appear in the Active Device List of the PSCONFIG program.**

Solution No. 2	• Ensure that the Print Server is on the same network segment as your PC.
	• Load the NetBEUI protocol on your PC, so that PSCONFIG can try connecting using NetBEUI. Once connected, check the following:
	  • The NetWare protocol is enabled.
	  • The Ethernet frame type of your PC may be different than the one with your Print Server. Enable all Ethernet frame types.

Problem No. 3	**My Print Server is configured as a Novell Print Server, and cannot log in to a file server.**

Solution No. 3	The following steps may solve this problem:
	1. Get the Print Server information using PSCONFIG. If the device is configured as a Novell Print Server, the information will look like the following:
	`Server Name: SC110049`
	`NetWare Information:`
	`Master File Server: ICE`
	`Print Server Mode Status:`
	`Your_File_Server: Current Status`
	`Remote Printer Mode Status: N/A`
	2. Make sure the master file server name is assigned correctly.
	3. Check the Current Status of Your_File_Server:
	Connected:
	No action required
	No file server:
	Assign a master file server using PSCONFIG
	Connecting to Server:
	Wait and check if the file server exists
	Password Mismatch
	Clear the NetWare password with PCONSOLE, or set the correct password for the Print Server using

	WPCONFIG or BiAdmin. Print Server Not Defined Install Print Server again 4. Check NetWare to see if the login status of the Print Server to the file servers is Ready. If it is not, check the error message and perform the required corrective action. 5. Check the Novell file server's name. If it is over 20 characters long,. Rename it using no more than 20 characters. 6. If the file server is not in the status list and the Print Server has logged into the master file server, it means that the file server has not been serviced by the Print Server. Check to see if the file server is in the list of File Server To Be Serviced item of PCONSOLE. If not, insert the file server name to the list.
Problem No. 4	**My Print Server is configured as a Novell Remote Printer, and can't log in to the Novell Print Server.**
Solution No. 4	Try the following troubleshooting procedure: 1. Get the Print Server information as described in Problem 3 above. 2. Check the fields after the following. `Remote Printer Mode Status:` For each logical printer, there will be a status entry. The status will be one of the following. Connected: No action required Unable to find server: Load NetWare Print Server. Connecting to Server: Wait and check if the NetWare Print server is loaded Printer not Defined Install the Print Server as a remote printer of a NetWare print server. 3. Check NetWare to see if the Print Server is ready. If it is not, check the error message and perform the required corrective action. 4. Check the NetWare Print Server's name. If it is over 20 characters, rename it using no more than 20 characters.
Problem No. 5	**My Print Server cannot print the jobs sent to the print queue.**
Solution No. 5	Try the following. 1. Check if the printer attached to the Print Server is on-line. 2. Check if your Print Server is logged into the file server (See Problem 3) 3. Check the current status of the queue. Run PCONSOLE and select Print Queue Information. Then select the queue and select Current Queue Status. See if there are three YES's. If not, set them to YES. 4. Check if the NetWare printer number is correct. 0 = parallel port 1 of the Print Server. 1 = parallel port 2 of the Print Server.

	2 = serial port or parallel port 3 5. Check to see if the Print Server is a static queue server to the queue. Run PCONSOLE and select Print Server Information. Then select Print Server Configuration and select Queues Serviced by Printer. Then select your desired printer and check if the queue is on the list. If its not, insert the queue into the list by pressing [Insert] key and select the queue. Then reset the Print Server to service the new queue. 6. The total number of queues to be serviced may be over the limit of 56. If so, reduce the number of queues.
Problem No. 6	**I used the Capture command to print a job, but the job was separated into two parts.**
Solution No. 6	The time out setting in Capture command may be too short. You should increase the timeout value of the Capture command. Use the option /TI=n of the Capture command to increase the time out value, where n is the value of timeout.
Problem No. 7	**PSCONFIG shows "No Response."**
Solution No. 7	This may be due to the following • The network traffic is busy now. Wait for a minute and then try it again. • The Print Server is not powered on. Power it on. • The network cable is disconnected. Check the cable. • The node address of the Print Server may be the same as the node address of another device on the network.
Problem No. 8	**QUICKSET timed out when checking if the device had logged in to the file servers.**
Solution No. 8	This means that the Print Server did not log in the master file server. It might be that the Ethernet frame types do not match. 1. Try to find a workstation that use the same frame type as the Print Server so that PSCONFIG can see the device. Or load the NetBEUI protocol on your PC and use WPCONFIG to connect to the device. 2. Enable the Print Server's frame type to the frame type that the master file server uses and disable all other frame types.
Problem No. 9	**I cannot receive Notify message in NetWare 4.x environment.**
Solution No. 9	1. Make sure you are a Notify member of the Print Server. 2. Run NetAdmin and set the name of the Default Server to receive notification.
Problem No. 10	**I cannot use PCONSOLE to see Printer Status or the current server status in Print Server Information is showing *Down* in the NetWare 4.x environment.**
Solution No. 10	It may be that you created the print server object in NetWare 3.x environment and used PCONSOLE in NetWare 4.x to view the status. Try the following:

	1. Ensure the Print Server is ON. 2. Delete the print server object of the Print Server. 3. Install the Print Server again in NetWare 4.x NDS environment.
Problem No. 11	**The "String Before Job" and/or "String After Job" settings in the Logical Printers don't work properly.**
Solution No. 11	• Check the length of the control strings. No string can exceed 15 characters. • Check that the control strings are in HEX.

Printing - Unix

Problem No. 1	**Print Server device is not recognized.**
Solution No. 1	Check the following: • There are no routers between the Print Server and the UNIX host during IP address assignment. • There are no NetWare File Servers that do not have TCP/IP support between the Print Server and the UNIX host. • The network cable to be used by Print Server is intact. Connect the cable to another network device and test it. • You have used the correct Physical Address derived from the device Default name. • Use the ping command to see if the Print Server is a valid device on the network.
Problem No. 2	**The standard interface program on SUN 5.2 cannot be used with Psfilter.**
Solution No. 2	Use dumb_int.sh which is the interface program shipped with Print Server.
Problem No. 3	**When the interface program detects that the printer device is not a printer, a printer error message appears on the screen.**
Solution No. 3	Mark out all stty commands in the interface script.
Problem No. 4	**The .psopts file format is not accepted by BSD UNIX.**
Solution No. 4	If the prefix string and suffix string must contain control words or are too long, use headfile or tailfile instead of prefix string or suffix string.
Problem No. 5	The **Print Server**'s IP address is forgotten and it needs to be installed in a new environment.

Solution No. 5	Follow the steps below to set the Print Server configuration back to the factory default settings:
	1. Enter the command:
	`arp -s yyy.yyy.yyy.yyy 00:c0:02:xx:xx:xx`
	Where yyy.yyy.yyy.yyy is the new IP address assigned to the Print Server and xx:xx:xx is the default name of the device, less the leading "SC". Combined with 00:c0:02, this gives the hardware address of the device.
	2. Enter the commands:
	`ftp yyy.yyy.yyy.yyy`
	`ftp>get DEFAULTC`
	`ftp>quit`
	This will reset the configuration to the factory defaults (including setting the IP address back to 0.0.0.0).
	3. Reconfigure as for a new device.

Problem No. 6	Printing by FTP, I receive an error message: *Invalid print queue* *Print queue not ready*
Solution No. 6	• Check that the printer is ready • Check that Logical printer(s) are defined on the Print Server. With FTP, you can print ONLY to a logical printer. • Reset the Print Server
Problem No. 7	I can't print using LPD.
Solution No. 7	Try printing with FTP. If this works, the problem is the LPD daemon on your UNIX host. Reconfigure the remote printer and the LPD daemon. Check the following points. • The remote host name is the name of the Print Server. • The remote printer name is the logical printer name on the Print Server (e.g. L1). • If your UNIX asks for the LPD type, be sure to identify the service type as BSD.
Problem No. 8	**I can't print using PSfilter,**
Solution No. 8	Run PSfilter directly with the command: `PSfilter -D P_name -v <file_name&` Where P_name is the Print Server's name file_name is the file you wish to print. If this fails, check for an error log file (e.g. PSErrLog XXXXX) in the /tmp directory. If there is not an error log file, recompile PSfilter. Also, check the Troubleshooting section of the Psfilter .TXT file for your system.
Problem No. 9	**The "String Before Job" and/or "String After Job" settings in the Logical Printers don't work properly**
Solution No. 9	• Check the length of the control strings. No string can exceed 15 characters. • Check that the control strings are in HEX.

Printing - Windows

Problem No. 1	**When printing from some software applications such as Power Point, it takes a long time and the print out is incorrect.**
Solution No. 1	The problem is due to the printer being configured to **Start printing after the first page is spooled**. To change this setting: 1. Go to Control Panel➔Printers and click on your printer. 2. Then select File➔Properties➔Details. 3. When the Details screen appears, click the Spool Settings button. 4. When the Spool Settings dialogue box appears, choose *Start printing after last page is spooled* and click OK.
Problem No. 2	**While adding my printer as instructed in Windows 95, I received a message stating that Printer could not be found.**
Solution No. 2	Some printer drivers, when configured as Local Printer, will poll the printer to see if it is connected. Since the printer is networked, the printer can not be detected. To fix this, perform the following: 1. Select *Network printer* when asked *How is the printer attached to your computer?* 2. Then when prompted for *Network Path or Queue* name enter a dummy value such as \\54321 and select Next 3. The printer wizard will display a message stating the Network Printer is off-line. Continue to install the printer as normal. 4. When finished, go to Control Panel➔Printers and select your printer. The printer icon will be grayed out indicating the printer is not ready. 5. Select Properties➔Details. In the *Print to the following port* box, select Print Server (PrintServer). 6. Click Apply, then OK, then close the properties window. 7. Select the printer and go to the File menu. Check the *Work off-line* option is OFF. 8. If the printer is connected and powered On, the printer icon should no longer be grayed out, and you should be able to print.
Problem No. 3	**I connected and configured a WPS (Windows Printing System) printer as described, but I can't get the print job to print.**
Solution No. 3	WPS printer drivers poll the printer before sending print data. Since the printer is networked, the printer is not found and no data is sent. The solution is to add your printer as a network printer as described in Solution 2 above. The following lists some common WPS printers: Canon LBP-430W Epson ActionLaser 1300/W Lexmark WinWriter Series Olivetti PG304 Epson EPL-5500/W HP LaserJet 5L NEC SuperScript series Samsung MyLaser Series

Internet Printing

Problem No. 1	**I don't know my Mail Server's IP Address.**
Solution No. 1	Use the PING command to connect to the Mail Server by name. Example ping ms.hinet.net The reply will say Reply from xxx.xxx.xxx.xxx where xxx.xxx.xxx.xxx is the IP Address of the Mail Server.
Problem No. 2	**Plain text E Mails are not printed.**
Solution No. 2	Text E Mail messages are printed only if the Print Server is configured with *Print every E Mail* ON.
Problem No. 3	**Plain text E Mails print OK., but if I include an attachment, I get an E Mail reply "Wrong Encoding Method".**
Solution No. 3	The Internet Printer system supports only Base64 encoding. Using the Internet Printing Port driver will ensure a correctly encoded attachment..
Problem No. 4	**A print job is printing garbage.**
Solution No. 4	Users must use the correct printer driver. The print job can be canceled using the *Control - Abort Mail Print Job* menu option in the BiAdmin program.
Problem No. 5	**Two print jobs are printing on the same page.**
Solution No. 5	Change the port used for Internet Printing from a physical port to a Logical Port (Printer). Configure the Logical Printer so that the *String after Job* contains a FF (Form Feed, decimal 12 or 0C in Hex). See *Logical Printers* on page 27 for details of Logical Printers.
Problem No. 6	**The Print job seemed to go through OK, but it was never received.**
Solution No. 6	Check the E Mail address. If you use more than one Internet Printer with the same printer driver, ensure that you use the correct port each time you print.
Problem No. 7	**Only the banner page was printed.**
Solution No. 7	• This could be the same as Problem 2 on page 102. Try the same solution. • This could also be caused by using the wrong encoding method. Ask the user to use the InterNet Printing Port.
Problem No. 8	**The Banner page is not correct; the first row has disappeared.**

Solution No. 8	This may be caused by the previous print job not sending a form feed after finishing printing. Try sending print jobs to a logical printer, which is defined with a Post String of FF (Form Feed - 0C in Hex). To do this, define the Logical Printer, and set the port used for Internet Printing to this Logical Printer. See *Logical Printers* on page 27 for details of Logical Printers.

WebAdmin

Problem No. 1	**WebAdmin doesn't find all items within the "NDS Tree Names" & "Master File Servers".**
Solution No. 1	This occurs only with IPX/SPX. The solution is to manually enable all 4 Ethernet frame types - Ethernet II, SNAP, 802.3, and 802.2.
Problem No. 2	**WebAdmin won't run on my browser.**
Solution No. 2	Check the following: • Your LAN/WAN connection is OK. • The URL is correct. (Has the program been installed in a different directory to the default?) • The program name is correct: `webadmin.exe?application/x-msdownload` • The alias name "webadmin" is set correctly.
Problem No. 3	**Screen contents have become scrambled.**
Solution No. 3	Click on any button or link to update it, or use your Browser's "Refresh" command.
Problem No. 4	**The picture on the home screen doesn't change.**
Solution No. 4	The picture is an animated GIF. Older Browsers do not support animated GIFs.

Appendix A

Specifications

EN2024-6 EtherDuo-PS	
Power Consumption	5w max.
External Power Adapter	9VDC
LEDs	3
Serial Port	One RS-232 male DB-9 connector
Parallel Port	Two Centronic female DB-25 connectors
Ethernet cables	10BASE-2, 10BaseT

EP3003 CheetahPrint Power-3003	
Power Consumption	5w max.
External Power Adapter	12V DC
LEDs	3
Parallel Port	Three Centronic female DB-25 connectors
Ethernet cables	10BaseT, 100BaseT

Environmental Specifications	
Operating Temperature	0 ~ 40°C
Storage Temperature	-10 ~ 70°C
Shipping Temperature	-40 ~ 70°C
Operating Humidity	10 ~ 80%
Storage Humidity	5 ~ 90%
Shipping Humidity	5 ~ 100%

Parallel Port Pin Assignments		
Pin	**Signal Name**	**Direction**
1	-Strobe	To printer
2	+Data 0	To printer
3	+Data 1	To printer
4	+Data 2	To printer
5	+Data 3	To printer
6	+Data 4	To printer
7	+Data 5	To printer
8	+Data 6	To printer
9	+Data 7	To printer
10	- ACK	To Server
11	+ Busy	To Server
12	+ Paper End	To Server
13	+ Select	To Server
14	- Auto Feed	To printer
15	- Error	To Server
16	- Init	To printer
17	- Select In	To printer
18-25	GND	Ground

Serial Port Specifications	
Interface	RS-232
Baud Rate (bps)	300,600,1200 2400,4800,9600 19200, 38400s
Protocol	Hardware, XON/XOFF, None, Both
Parity	Even/Odd/None
Data Bits	7 or 8
Stop Bits	1 or 2
Connector	Male DB-9
Cable	< 15 meters

Pin	Purpose	Direction
1	Carrier Detect (CD)	To server
2	Receive (Rx)	To server
3	Transmit (Tx)	To printer
4	Data Terminal Ready	To printer
5	Signal Ground (GND)	None
6	Data Set Ready (DSR)	To server
7	Request to Send (RTS)	To printer
8	Clear to Send (CTS)	To server
9	Ring Indicator (RI)	To server

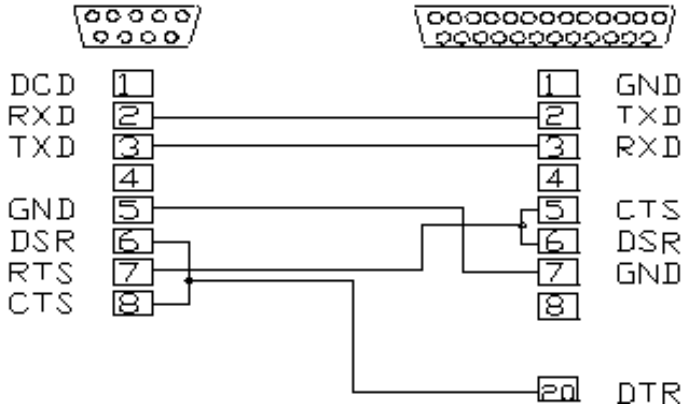


Figure 46 Serial cable pinouts Apple LaserWriter

Appendix B

Configuration File Format

The following table shows the CONFIG file details. The information in each column is as follows.

Default Line

The line as obtained from the device. Each line has the following structure: Line_number Token:*Parameter*

Where

Line_number is a system parameter and MUST NOT be changed.
Token is a readable identifier for the line.
Parameter is the current setting. A colon separates the **Token** from the *Parameter*.

Allowable Values

This column lists the values which may be used for the *Parameter*. The following items are used:

Text[*n*], where *n* is a number, indicates a text field with a maximum length of *n* characters.
Numeric[0..*n*], where *n* is a number, indicates the acceptable range of values for a numeric field.
Access Code, where the allowable values are: Read Only, Read/Write, Not Accessible.

Description

Explanation of the purpose of the parameter.

Shaded rows indicate lines which do not exist in all models.

Default Line	Allowable Values	Description
0001 BOX_NAME:SCxxxxxx	Text [19]	Device name
0011 IPXSPX_P:Enable	Enable, Disable	NetWare protocol
0012 TCPIP_P :Enable	Enable, Disable	TCP/IP protocol
0013 APTALK_P:Enable	Enable, Disable	AppleTalk protocol
0014 NETB_P:Enable	Enable, Disable	NetBEUI protocol
0030 BAUDRATE:9600	300, 600, 1200, 2400, 4800, 9600, 19200, 38400	Serial Port Baud Rate
0031 STOPBITS:1	1, 2	Serial Port Stop Bits
0032 PARITY :None	None, Odd, Even	Serial Port Parity
0033 DATABITS:8	7, 8	Serial Port Data Bits
0034 HANDSHAK:HARDWARE	Hardware, ON/XOFF, None, Both	Serial Port Flow Control
0100 L1_PROUT:P1	P1, P2, P3 (if exist)	Port used by Logical Printer 1
0101 L1_PREST:	Text [15] (hex)	Pre-string LP 1
0102 L1_POSTR:	Text [15] (hex)	Post-string LP 1
0103 L1_CHGLF:No	Yes, No	Convert LF to LF/CR

0120 L2_PROUT:P1	P1, P2, P3 (if exist)	Port used by Logical Printer 2
0121 L2_PREST:	Text [15] (hex)	Pre-string LP 2
0122 L2_POSTR:	Text [15] (hex)	Post-string LP 2
0123 L2_CHGLF:No	Yes, No	Convert LF to LF/CR
0140 L3_PROUT:P1	P1, P2, P3 (if exist)	Port used by Logical Printer 3
0141 L3_PREST:	Text [15] (hex)	Pre-string LP 3
0142 L3_POSTR:	Text [15] (hex)	Post-string LP 3
0143 L3_CHGLF:No	Yes, No	Convert LF to LF/CR
0160 L4_PROUT:P1	P1, P2, P3 (if exist)	Port used by Logical Printer 4
0161 L4_PREST:	Text [15] (hex)	Pre-string LP 4
0162 L4_POSTR:	Text [15] (hex)	Post-string LP 4
0163 L4_CHGLF:No	Yes, No	Convert LF to LF/CR
0180 L5_PROUT:P1	P1, P2, P3 (if exist)	Port used by Logical Printer 5
0181 L5_PREST:	Text [15] (hex)	Pre-string LP 5
0182 L5_POSTR:	Text [15] (hex)	Post-string LP 5
0183 L5_CHGLF:No	Yes, No	Convert LF to LF/CR
0200 L6_PROUT:P1	P1, P2, P3 (if exist)	Port used by Logical Printer 6
0201 L6_PREST:	Text [15] (hex)	Pre-string LP 6
0202 L6_POSTR:	Text [15] (hex)	Post-string LP 6
0203 L6_CHGLF:No	Yes, No	Convert LF to LF/CR
0220 L7_PROUT:P1	P1, P2, P3 (if exist)	Port used by Logical Printer 7
0221 L7_PREST:	Text [15] (hex)	Pre-string LP 7
0222 L7_POSTR:	Text [15] (hex)	Post-string LP 7
0223 L7_CHGLF:No	Yes, No	Convert LF to LF/CR
0240 L8_PROUT:P1	P1, P2, P3 (if exist)	Port used by Logical Printer 8
0241 L8_PREST:	Text [15] (hex)	Pre-string LP 8
0242 L8_POSTR:	Text [15] (hex)	Post-string LP 8
0243 L8_CHGLF:No	Yes, No	Convert LF to LF/CR
2000 NOP_MODE:PS	PS, RP	NetWare mode Print Server (PS)or Remote Printer (RP)
2001 NFREthII:Enable	Enable, Disable	Ethernet II frame type
2002 NFR802.2:Enable	Enable, Disable	802.2 frame type
2003 NFR802.3:Enable	Enable, Disable	802.3 frame type
2004 NFRSNAP :Enable	Enable, Disable	SNAP frame type
2101 NFS_NAME:	Text [20]	Master file server
2102 N_NOTIFY:No	Yes, No	Notification by node address
2103 N_FREQ :1	Numeric[0..255]	Polling queue interval
2110 NDS_TREE:	Text [39]	NDS Tree Name
2111 NCONTEXT:	Text [235]	NDS context
2501 NR_NAME1:	Text [19]	NetWare Print Server for parallel port 1
2502 NR_NAME1:	Text [19]	NetWare Print Server for parallel port 2
2503 NR_NAME1:	Text [19]	NetWare Print Server for serial port

2504 NR_NAME1:	Text [19]	NetWare Print Server for parallel port 3
3000 AP_ZONE:*	Text [19]	AppleTalk zone
3001 AP_TYPE1: LaserWriter	Text [19]	Printer type for parallel port 1
3002 AP_TYPE2: LaserWriter	Text [19]	Printer type for parallel port 2
3003 AP_TYPE3: LaserWriter	Text [19]	Printer type for serial port
3004 AP_TYPE4 LaserWriter	Text [19]	Printer type for parallel port 3
3101 AP_PCOMM1:No	Yes, No	ASCII (No) or Binary (Yes) communication for parallel port 1
3102 AP_PCOMM2:No	Yes, No	ASCII (No) or Binary (Yes) communication for parallel port 2
3103 AP_PCOMM3:No	Yes, No	ASCII (No) or Binary (Yes) communication for serial port
3104 AP_PCOMM4:No	Yes, No	ASCII (No) or Binary (Yes) communication for parallel port 3
4000 IP_ADDR:0.0.0.0	IP Address	Device IP Address
4001 GATEWAY:0.0.0.0	IP Address	Gateway
4002 MASK :0.0.0.0	IP Mask	Subnet mask
4010 TCP_INT:2	Numeric[0..255]	Delay before reconnection attempt
4011 TCP_CNT:254	Numeric[0..255]	No. of reconnection attempts.
4100 MAIL_IP:0.0.0.0	IP Address	Mail A/C IP Address
4101 MAIL_ACC:	Text [19]	Mail A/C Name
4102 MAIL_PAS:********	Text [19]	Mail A/C Password
4103 MAIL_INT:0	Numeric[0..64K]	Check Mail Interval
4104 MAIL_BAN:No	Yes, No	Mail Banner Page
4105 MAIL_RED:	Text [19]	Mail A/C name for redirection
4106 MAIL_POR:P1	P1..P3 (if exist) L1..L8 (if exist)	Printer port (physical or logical) for Internet (Mail) Printing
4107 MAIL_EVR:No	Yes, No	Print every E Mail
4108 MAIL_NOT:No	Yes, No	Notify mail printed
4109 MAIL_MOD:	Text [19]	Mail Printer model
5000 SMBGNAME:	Text [19]	NetBEUI group (domain) name
5001 SMBDROP:No	Yes, No	Abort print job if error
5002 SMBDELAY:0	Numeric[0..255]	Delay time
6000 CONTACT:	Text [31]	SNMP person
6001 LOCATION:	Text [31]	Contact location
6011 M1_IP:0.0.0.0	IP Address	Management station 1
6012 M1_ACCP: Not Accessible	*Access Code*	Access rights
6013 M1_CSTR:	Text [7]	Community String
6021 M2_IP:0.0.0.0	IP Address	Management station 2
6022 M2_ACCP: Not Accessible	*Access Code*	Access rights

6023 M2_CSTR:	Text [7]	Community String
6031 M3_IP:0.0.0.0	IP Address	Management station 3
6032 M3_ACCP: Not Accessible	*Access Code*	Access rights
6033 M3_CSTR:	Text [7]	Community String
6041 M4_IP:0.0.0.0	IP Address	Management station 4
6042 M4_ACCP: Not Accessible	*Access Code*	Access rights
6043 M4_CSTR:	Text [7]	Community String
6111 T1_IP:0.0.0.0	IP Address	Trap 1 Address
6112 T1_S:0	Numeric[0.2]	Severity Level
6113 T1_CSTR:	Text [7]	Community String
6114 T1_ENAB:Disable	Enable, Disable	Trap receive station 1
6121 T2_IP:0.0.0.0	IP Address	Trap 2 Address
6122 T2_S:0	Numeric[0.2]	Severity Level
6123 T2_CSTR:	Text [7]	Community String
6124 T2_ENAB:Disable	Enable, Disable	Trap receive station 2
6131 T3_IP:0.0.0.0	IP Address	Trap 3 Address
6132 T3_S:0	Numeric[0.2]	Severity Level
6133 T3_CSTR:	Text [7]	Community String
6134 T3_ENAB:Disable	Enable, Disable	Trap receive station 3
6141 T4_IP:0.0.0.0	IP Address	Trap 4 Address
6142 T4_S:0	Numeric[0.2]	Severity Level
6143 T4_CSTR:	Text [7]	Community String
6144 T4_ENAB:Disable	Enable, Disable	Trap receive station 4

Appendix C

SNMP MIB

PSSystemConfig group

Object	Description
PrintServerName	The name of the Print Server, Default is SCxxxxxx.
NetwareProtocol	Netware Protocol Stack Status.
TcpipProtocol	TCP/IP Protocol Stack Status.
AppleTalkProtocol	AppleTalk Protocol Stack Status.
NetbeuiProtocol	Netbeui Protocol Stack Status.

PSLogicalPrinterConfig group

Object	Description
LP1PhysicalPort	The Physical port of Logical printer 1.
LP1PreString	The String sent to logical printer 1 whenever a job begins.
LP1PostString	The string sent to the logical printer 1 whenever the job ends.
LP1LFChange	Convert LF to LF+CR Status.
LP2PhysicalPort	The Physical port of Logical printer 2.
LP2PreString	The String sent to logical printer 2 whenever a job begins.
LP2PostString	The string sent to logical printer 2 whenever the job ends.
LP2LFChange	Convert LF to LF+CR Status.
LP3PhysicalPort	The Physical port of Logical printer 3.
LP3PreString	The String sent to logical printer 3 whenever a job begins.
LP3PostString	The string sent to logical printer 3 whenever the job ends.
LP3LFChange	Convert LF to LF+CR Status.
LP4PhysicalPort	The Physical port of Logical printer 4.
LP4PreString	The String sent to logical printer 4 whenever a job begins.
LP4PostString	The string sent to logical printer 4 whenever the job ends.
LP4LFChange	Convert LF to LF+CR Status.
LP5PhysicalPort	The Physical port of Logical printer 5.
LP5PreString	The String sent to logical printer 5 whenever a job begins.
LP5PostString	The string sent to logical printer 5 whenever the job ends.
LP5LFChange	Convert LF to LF+CR Status.
LP6PhysicalPort	The Physical port of Logical printer 6.
LP6PreString	The String sent to logical printer 6 whenever a job begins.
LP6PostString	The string sent to logical printer 6 whenever the job ends.
LP6LFChange	convert LF to LF+CR Status.
LP7PhysicalPort	The Physical port of Logical printer 7.
LP7PreString	The String sent to logical printer 7 whenever a job begins.
LP7PostString	The string sent to the printer 7 whenever the job ends.
LP7LFChange	Convert LF to LF+CR Status.
LP8PhysicalPort	The Physical port of Logical printer 8.
LP8PreString	The String sent to logical printer 8 whenever a job begins.
LP8PostString	The string sent to logical printer 8 whenever the job ends.
LP8LFChange	Convert LF to LF+CR Status.

PSNetwareConfig group

Object	Description
FrameethernetIIEnable	EthernetII frame Type Status
Frame802-2Enable	Ethernet 802.2 frame Type Status
Frame802-3Enable	Ethernet 802.3 frame Type Status
FrameSnapEnable	Ethernet 802.2 SNAP frame Type Status
OperationMode	The current Netware operation mode. PS: PrintServer mode, RP: Remote Printer mode.
MasterFileSrvrName	The name of the File Server that the device will connect to First. The master file server contains all the information that the device needs, including a list of all other file servers to be serviced. (Netware 2.x, 3.x)
NDSTreeName	The NDS Tree Name for Netware Print server to login into. (Netware 4.x)
NDSContext	The NDS context where the print server's object belongs.
NetwareQPollingInterval	The Netware Print Server Polling Interval. The range is 1-255 minutes.
JobNotifyByConnID	When the job ends, Print will notify the user by the connection ID.
NetwarePrintServerP1	The Netware Print Server to connect to for parallel port 1, when the device is operating as a remote printer.
NetwarePrintServerP2	The Netware Print Server to connect to for parallel port 2, when the device is operating as a remote printer.
NetwarePrintServerP3	The Netware Print Server to connect to for parallel port 2, when the device is operating as a remote printer.
NetwarePrintServerSP	The Netware Print Server to connect to for the serial port, when the device is operating as a remote printer.

PSTcpipConfig group

Object	Description
IPAddr	IP Address of this device.
GatewayAddr	The default gateway IP Address.
SubnetMask	The subnet network mask.

PSAppleTalkConfig group

Object	Description
AppleTalkZone	The zone name where the device is located.
PrinterTypeP1	The printer driver type for parallel port 1.
PrinterTypeP2	The printer driver type for parallel port 2.
PrinterTypeP3	The printer driver type for parallel port 3.
PrinterTypeSP	The printer driver type for serial port.
BinaryCommEnableP1	Binary communication protocol status. When disabled, the data is transparently sent to the printer.
BinaryCommEnableP2	Binary communication protocol status. When disabled, the data is transparently sent to the printer.
BinaryCommEnableP3	Binary communication protocol status. When disabled, the data is transparently sent to the printer
BinaryCommEnableSP	Binary communication protocol status. When disabled, the data is transparently sent to the printer

PSNetbeuiConfig group

Object	Description

SMBGroupName	SMB Group Name.
SMBdropJob	Do you want to drop the job when printer is out of paper?.
SMBDelayInterval	SMB Delay Interval.

PSStatus group

Object	Description
SystemInfo	This field contains the system information, including the F/W version, hardware address and current protocol status settings.
PrinterStatus	This field shows the current Printer Status.
PrinterInfo	Displays the device ID for each of the supported ports.

PSIPXStatistics

Object	Description
IPXPrintJobServiced	Number of NetWare jobs serviced.
IPXBytesServiced	Number of NetWare data bytes serviced.
IPXEtherIIPacketReceived	Number of IPX packets received of EthernetII frame type.
IPX8022PacketReceived	Number of IPX packets received of Ethernet 802.2 frame type.
IPX8023PacketReceived	Number of IPX packets received of Ethernet 802.3 frame type.
IPXSnapPacketReceived	Number of IPX packets received of Ethernet 802.2 SNAP frame type.
IPXEtherIIPacketSend	Number of IPX packets sent of EthernetII frame type.
IPX8022PacketSend	Number of IPX packets sent of Ethernet 802.2 frame type.
IPX8023PacketSend	Number of IPX packets sent of Ethernet 802.3 frame type.
IPXSnapPacketSend	Number of IPX packets sent of Ethernet 802.2 SNAP frame type.

PSAppleTalkStatistics

Object	Description
APPrintJobServiced	Number of AppleTalk jobs serviced.
APBytesServiced	Number of AppleTalk bytes serviced
APPacketReceived	Number of packets received by AppleTalk.
APPacketSend	Number of packets sent by AppleTalk.

PSTcpipStatistics

Object	Description
IPPrintJobServiced	Number of TCP/IP Jobs serviced.
IPBytesServiced	Number of TCP/IP bytes serviced.
IPPacketReceived	Number of packets received by TCP/IP.
IPPacketSend	Number of packets sent by TCP/IP.

PSControl group

Object	Description
ResetPrinterServer	Reset (reboot) the device.
RestoreFactoryDefault	Restore the factory default settings.
ResetStatistics	Set the statistics counter back to zero.

PSSerialConfig group

Object	Description
SerialBaudrate	Serial port baud rate (bps)
SerialStopBits	Serial port stop bits.

SerialParity	Serial port parity.
SerialDataBits	Serial port data bits.
SerialProtocol	Serial port flow control protocol.

Traps

Trap	Description
printserverTrap	Printer status changed.